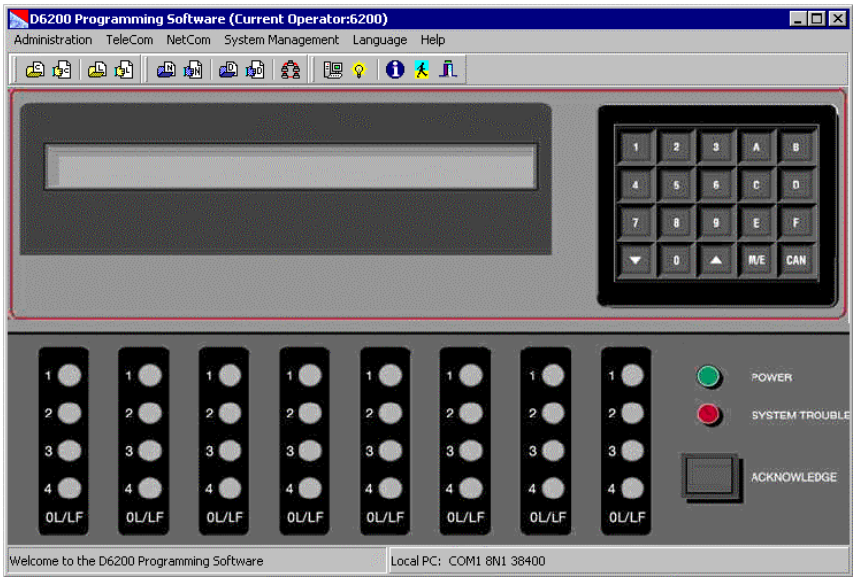
D6200



Security Systems

EN

Operation and Installation Guide

Programming Software

BOSCH

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1.0 Introduction

1.1 Manual Organization

This manual is divided into six sections. A summary of each section and appendix is detailed in the table below.

Table 1: D6200 Operation and Installation Guide Manual Organization

Section	Description
1	Introduction - this section
2	Overview - an overview of the D6200 Programming Software
3	Installation - installation the D6200 Programming Software
4	Operation - operation of the D6200 Programming Software
5	Firmware Upgrade Procedure - how to automatically upgrade the receiver firmware files
6	Troubleshooting - uninstalling the software, manually upgrading the receiver firmware files, manually configuring the network device (C900TTL-E, D9133TTL-E, DX4020 or D6680) through Telnet, IP assigning and Pinging

1.2 Referenced Documentation

Throughout this manual, references will be made to other documentation. See the following table for a more complete and detailed description of the D6200 Programming Software.

This table lists the complete part number for ordering purposes.

Table 2: Referenced Documentation

Document Name	Part Number
D6600 Program Entry Guide	4998122702
C900TTL-E Installation Guide	4998122718
D9133TTL-E Installation Guide	4998122717
DX4020 Installation Guide	49522
D6680 Network Adapter Installation Guide	4998138732
D6600 Computer Interface Manual	4998122703

1.3 Documentation Conventions

To help identify important items in the text, the following type styles are used:

Bold text	Usually indicates selections that you may use while programming your control panel. May also indicate an important fact that you should note.
Bold Italicized text	Denotes notes, cautions and/or warnings.
Italicized text	Refers you to a drawing, table, or other section of this document, or to another document. Also used to symbolize names for records that you will create.
`Courier New Text`	Indicates what may appear on the programmer display, command center/keypad, or internal printer. Also used to indicate what the user should type.
[CAPITALIZED TEXT]	Indicates a specific key to be pressed.
File→New	This is used to describe the path in getting to a specific sub-menu or command in a Windows-based application. Example: …select File→New to create a new…

1.4 Attention Icons

The following attention icons are to be used to denote and emphasis text.

These caution the operator that physical damage to the program and/or equipment may occur. This is to be used when there is a risk of physical damage to the operator (injury) or equipment (as in damage to physical components).

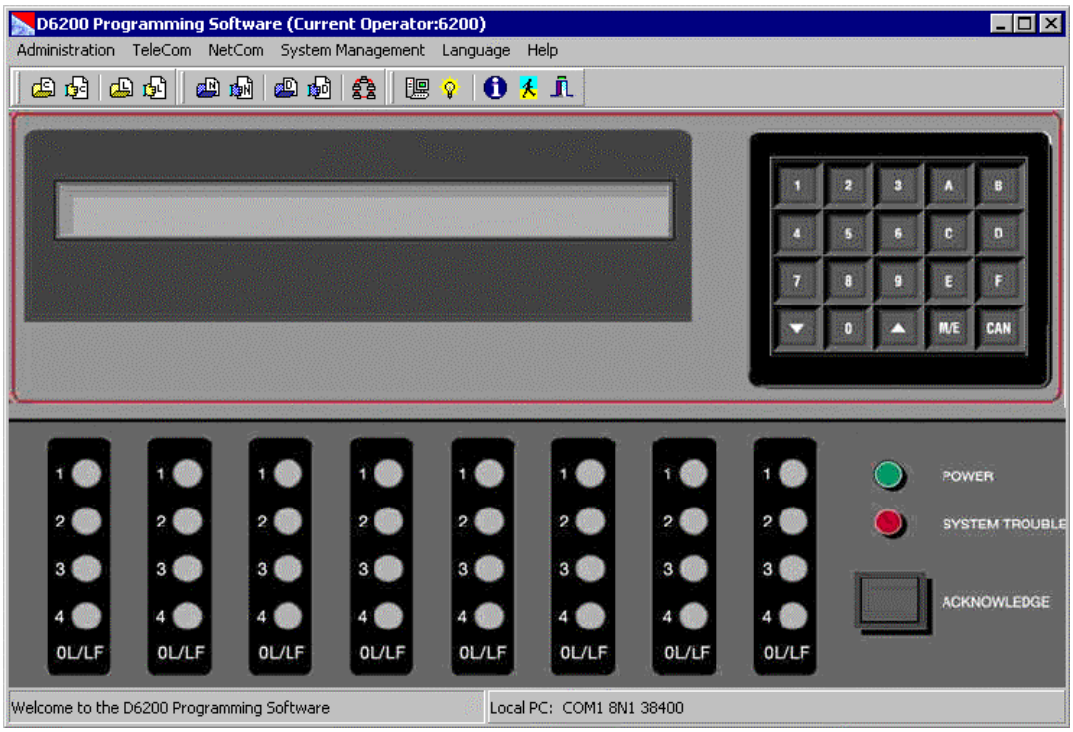
This is for Important Notes that should be heeded for successful operation and programming.

These warn the operator that physical damage to the program and/or equipment may occur. This is to be used when there is an increased risk of physical damage to the operator (severe injury or death) or equipment (as in destruction to physical components).

2.0 Overview

The D6200 is a PC-based application for Microsoft® Windows® 95, Windows 98, Windows 98 Second Edition, Windows Me, Windows NT, Windows 2000 and Windows XP that allows the user to view, change, upload and download all of the D6600's programming parameters via a network OR the receiver's and the host's serial COM ports. Through the D6200 software the user can edit CPU and line card parameters, view the status of all accounts in the databases, add/edit/delete accounts, and configure network operations.

Figure 1: D6200 Programming Software main screen



The D6600 programming is loaded from four different files:

- CPU/Host/Network Configuration File
- Line Card Configuration File
- NetCom Account Database File
- DNIS Account Database File OR Caller ID Database File

These four files can be modified, uploaded or downloaded separately.

> The version numbers used in the screen shots throughout this manual are for demonstration only. They may differ from the software version numbers you have.

3.0 Installation

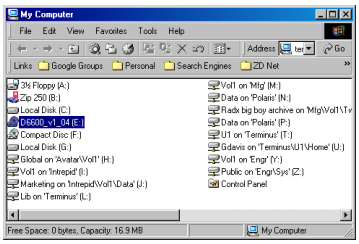
In a network configuration, both the D6200 and the D6202 need to either be ran one at a time or on separate PCs. The software applications can't share the same IP address while running simultaneously.

3.1 Installing the D6200 software

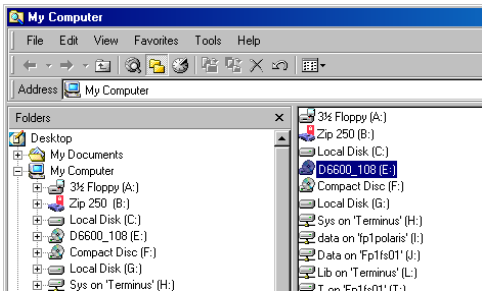
Follow these steps to install the D6200 Software on the Host PC.

The different databases (NetCom Account, DNIS and Caller ID) and configurations (CPU, Line and Network) should be saved and backed up after installing the new D6200. These files must then be loaded back into the D6600.

1. Insert the D6600 Communications Receiver/ Gateway CD-ROM into the host computer's CD-ROM drive.

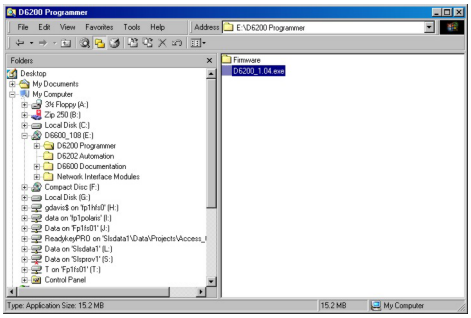


Double-click on the My Computer icon or start Windows Explorer then double-click on the letter of your CD-ROM to view the CD-ROM files.



2. Open the D6200 Programmer folder on the CD-ROM.

3. Double click the D6200 icon to begin the installation process.



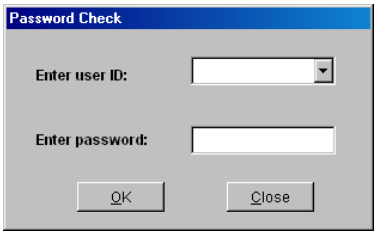
4. Follow the installation instruction prompts given by the computer to complete installation of the D6200 programming software.

4.0 Operation

4.1 Password protection

The D6200 Programming Software is password protected. To log in, the user must enter the correct User ID and Password upon opening the D6200 software. Only one user can be logged on at all times. To log off, select Administration → Log Off.

A window will pop up prompting the user for the correct User ID and Password necessary to log on again.



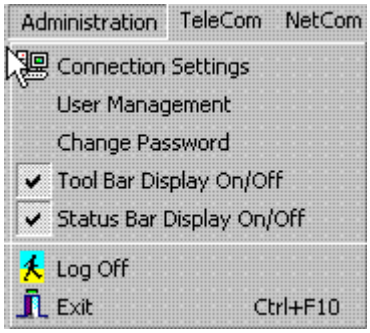
The default User ID and Password is 6200, which has access to ALL security levels and features. It is highly recommended that the default User Password be changed to something other than 6200. The D6200 passwords do not correspond with the D6600 user passwords.

The maximum allowable password is eight hexadecimal characters (0 through 9, A through F).

4.2 Connection settings

The connection settings allows for the configuration of communication parameters for the D6200 to communicate with network devices (C900TTL-E, D9133TTL-E, DX4020 or D6680) and D6600 Receivers.

To set the D6200 connection settings, select Administration → Connection Settings



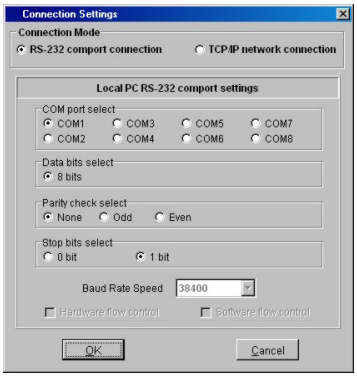
4.2.1 RS-232 Connection

Section 6.1.5 in the receiver must be disabled (set to 0) to communicate using the COM4 RS-232 direct connect.

To set the connection for RS-232 direct connect, do the following:

1. Select RS-232 comport connection from Connection Mode selections
2. For Local PC RS-232 comport settings, set the following
   - COM port select – COM1 to COM8
   - Data bit select – 8 bits
   - Parity check select – None, Odd or Even
   - Stop bits select – 1 bit or 2 bits
   - Baud Rate Speed – default is at 38,400 bps.

Figure 2: D6200 RS-232 Connection Settings



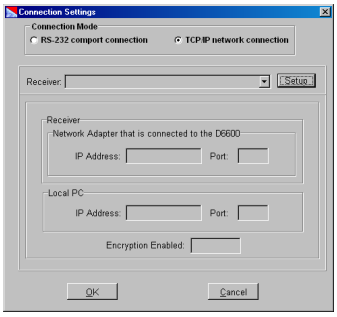
4.2.2 Network Connection

Section 6.1.5 in the receiver must be enabled (set to 1) to communicate using the network connection if the D6680 is connected to COM4. Section 6.2.5 must be enabled (set to 1) to communicate using the network connection if the D6680 is connected to COM1.

To set the connection for TCP/IP connect, do the following:

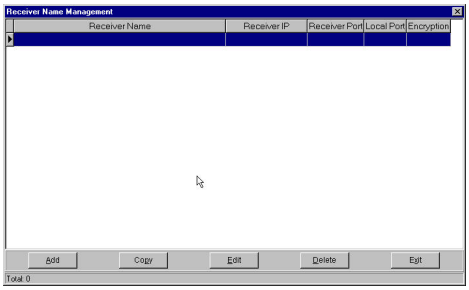
1. Select TCP/IP network connection from Connection Mode selections.

Figure 3: D6200 Network Connection Settings



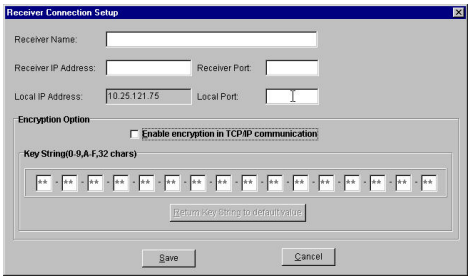
2. Click the setup button.

Figure 4: D6200 Network Connection Setup



3. Click the add button.

Figure 5: D6200 Network Connection Parameters



4. Receiver Name: Enter a receiver name. This name can be used as a cross reference to the IP address that is assigned to the receiver (e.g., D6680).
5. Receiver IP Address: The IP address of the D6680 you wish to communicate with.
6. Receiver Port and Local Port: The port number of the network device you wish to communicate with.
7. The local IP address: Shows the IP address of the PC.
8. Encryption Option: Check the Enable encryption in TCP/IP Communication box if you will be communicating to a network device with encryption enabled. See the appropriate installation guide for the network device being used for more information. The Encryption Key String must match the key string that is programmed into the D6680. Default value is 01-02-03-04-05-06-07-08-09-10-11-12-13-14-15-16

If the PC running the D6200 software is connected to a NNC network, there is a possibility that the server could change the IP address. If this happens, the D6200 software will no longer be able to communicate with the Receiver until the Receiver is programmed with the new IP address that was assigned to the PC. To avoid this, it is recommended that a static IP address be used for the PC running the D6200 software.

The Encryption key string must be the same for all devices (D6680, D6600, D9133TTL-E, DX4020, C900TTL-E, D6202, and D6200). Programming the devices in the following order will ease setup:

1. D6202 (Automation if used)
2. D6680
3. D6600
4. D9133TTL-E, DX4020, and C900TTL-E
5. D6200 (last)

4.2.3 Password Protection

The D6200 Programming Software is password protected. To log in, the user must enter the correct User ID and Password upon opening the D6200 software. Only one user can be logged on at a time. To log off, select Administration → Log Off. A window pops up prompting the user for the correct User ID and Password necessary to log on again.

The default User ID is “6200”. The default Password is “6200”. The D6200 passwords do not correspond with the D6600 passwords.

This has access to all security levels and features. It is highly recommended that the default User Password be changed to something other than “6200”.

The D6600 offers several passwords for multiple users. Each level has certain restrictions (see *Table 3*).

A maximum of eight alphanumeric characters (0 to 9, A to F) can be used to create valid passwords. Default passwords can be customized using the D6200 software.

Table 3: Password Levels and Restrictions

Level #	Level Name	Description	Access
1	Manager (1 user)	The manager has full programming control and access to all menu features. The manager may change any other passwords.	Alarm Database CPU Configuration Line Cards Configuration Host Programming Software Versions Network Configuration Account Database Configuration Registered Accounts
2	Supervisor (3 users)	The supervisor has full programming control and access to all menu features. The supervisor may also change any password except the manager's.	Alarm Database CPU Configuration Line Cards Configuration Host Programming Software Versions Network Configuration Account Database Configuration Registered Accounts
3	Operator (6 users)	The operator has restricted programming control and access to some menu features. The operator may not change any passwords	Alarm Database Software Versions Registered Accounts

4.3 D6600 Settings

The D6600 can be set to communicate directly (RS232) or over a network.

4.3.1 RS-232 connection

If the D6600 is directly connected to the Host PC, the receiver must be configured for a direct connection. To do this, follow the procedures below:

1. Navigate to 4 Host Programming and press [M/E].


```
4 Host Programming
```

2. At the 4.5 Parameter display, press [M/E] to enter the menu.

```
4.5 Parameter
```

3. At the 4.5.7 RS232 Software Programming Enable display, press [M/E] only if you are going to perform a firmware upgrade.

```
4.5.7 RS232 Software Programming Enable
```

4. Press [0] to disable software programming enable and [1] to enable software programming enable.

```
Current setting [0]
New Value [0..1]: 1
```

5. Press [M/E] to enter the menu.

6. At the 4.5.9 RS232 Direct Access Permission display, press [M/E].

```
4.5.9 RS232 Direct Access Permission
```

This allows communication between the D6200 software and the receiver through the RS232 direct connection.

7. Press [0] to disable Direct Access Permission and [1] to enable Direct Access Permission.

```
Current setting [0]
New Value [0..1]: 1
```

8. Press [M/E] to enter the menu.

9. Press [CAN] three times to exit out to the current time and date display.

```
04/06/2004 14:25:00
```

New settings take effect once you exit out to the time and date.

4.3.2 Network connection

If the D6600 is connected to the Host PC through a network connection, the receiver must be configured for network communication. To do this, follow the procedures below:

1. Navigate to 6 NETWORK CONFIGURATION → 6.4 D6200 Network Connection → 6.4.5 Network Programmable Enable

```
6.4.5 Network Programming Enable
Current Setting [1]
```

2. Press [M/E] to enter the menu.

3. Press [0] to disable communication and [1] to enable communication.

```
Current setting [0]
New Value [0..1]: 1
```

4. Press [M/E] to enter the menu.

5. The new value shows in the menu selection.

```
6.4.5 Network Programming Enable
Current Setting [1]
```

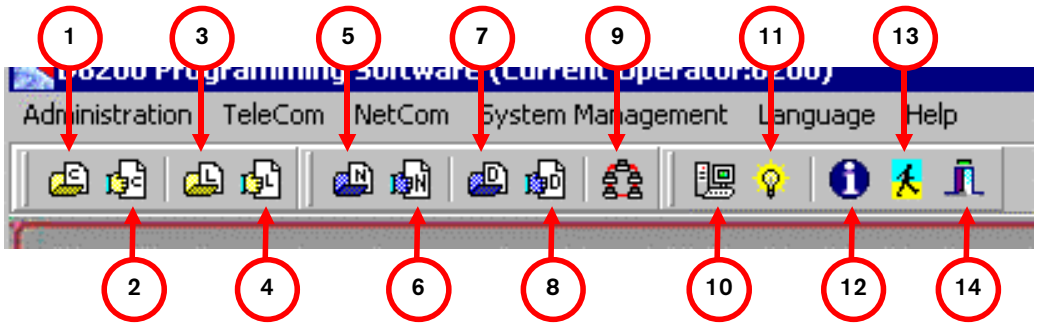
6. Press [CAN] three times to exit out to the current time and date display.

```
04/06/2004 14:25:00
```

New settings take effect once you exit out to the time and date.

4.4 D6200 Icon Bar

Figure 6: D6200 Main Icons



1 - *Open/Manage CPU Configuration From File – see Section 4.6.1 CPU Configuration, Opening the configuration file.*

2 - *Read/Manage CPU Configuration From Receiver – see Section 4.6.1 CPU Configuration, Reading the configuration file.*

3 - *Open/Manage Line Configuration From File – see Section 4.6.2 Line Card Configuration, Opening the configuration file.*

4 - *Read/Manage Line Configuration From Receiver – see Section 4.6.2 Line Card Configuration, Reading the configuration file..*

5 - *Open/Manage Network Configuration From File – see Section 4.7.1 Network Configuration, Opening the configuration file.*

6- *Read/Manage Network Configuration From Receiver – see Section 4.7.1 Network Configuration, Opening the configuration file.*

7 - *Open/Manage NetCom Account Database Configuration From File – see Section 4.8.3 NetCom Accounts, Opening the database file.*

8 - *Read/Manage NetCom Account Database Configuration From Receiver – see Section 4.8.3 NetCom Accounts, Reading the database from the receiver.*

9 - *Show Account Status – see Section 4.9.1 Show Accout Status.*

10. *Connection Settings – see Section 4.2 Connection settings.*

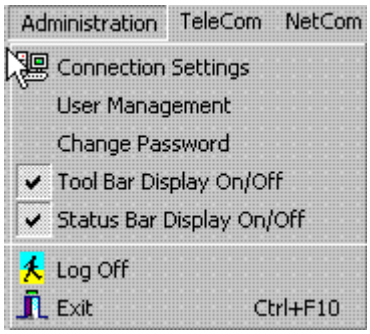
11. *Software Upgrade Wizard – see Section 4.11.1 One Button Upgrade Wizard.*

12. *About – Shows the Information dialog box for the D6200 software with the version number.*

13. *Log off – Logs off the current user and brings up the User/Password Dialog. see Section 4.2.3 Password Protection.*

14. *Exit – Exits the D6200 Programming Software.*

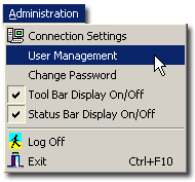
4.5 D6200 Administration



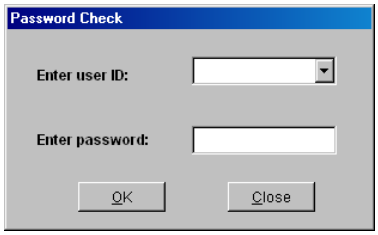
4.5.1 User Management

User Names, Passwords, and Access Rights can be added, edited, or deleted.

1. Select Administration → User Management.



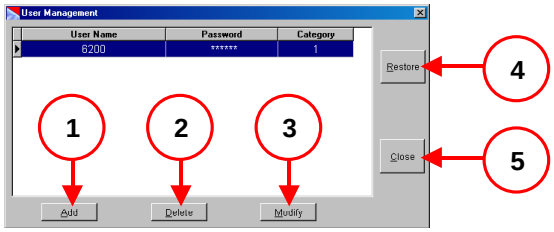
2. A window pops up prompting the user to enter the correct user ID and password. The same user ID and password must be used that was initially used to log into the D6200. User names and passwords are not case sensitive.



3. If the correct name and password are entered, the User Management window pops up and displays all user names and passwords.
4. *Figure 7* appears where users can be added, edited, or deleted.

> Master User (6200) access rights cannot be edited, nor can the master user be deleted. To change the master password, use the Administration/Change Password menu.

Figure 7: Adding, Editing, or Deleting Users



1 - Add a user: Click the Add button. Enter the user name, password, access rights, and then click the OK button.

2 - Delete a user: Click the appropriate cell, then click the Delete button.

3 - Edit a user name, password or access rights: Click the appropriate cell, then click the Modify button. This allows the user to modify the current value. Make the appropriate changes, then click the OK button.

4 - Click the Restore button to restore the previously saved user configurations.

5 - Click the Close button and the changes are automatically saved.

Access Rights

Users of the D6200 Programming Software may be granted access rights to varying D6200 menu options. When adding or editing users from the User Management window, select access rights from one of four categories shown in *Table 4*.

If no access rights are designated, the user access rights default to Read/Off Line Modification.

Table 4: Access Rights to the D6200 Menu Options

Level	Access Rights	Description
1	All	Users can access all the D6200 menu options.
2	All Except User Management	Users can access all the D6200 menu options except user management.
3	Read/Off Line Modification	Users can read configurations from the D6600 and modify parameters but cannot program the D6600.
4	User Defined	Users can select or remove any of the menu options by double clicking on the menu title listed. A check mark indicates the user was granted access to the item. No check mark indicates the user was denied access to that option.

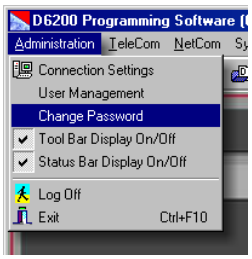
Save and Restore User Management Files

Once the user configurations are established, click the Close button. This saves user configurations into a hidden file, which can be useful for updating all user configurations when performing D6200 upgrades. After a new version of the D6200 is installed, click the Restore button. The previously saved user configurations are now loaded into the new D6200.

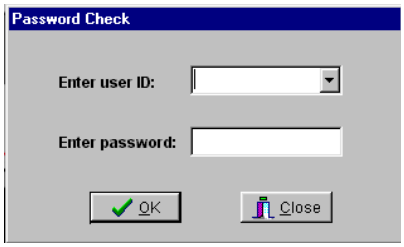
4.5.2 Changing User Password

The currently logged in user can change his/her password at anytime. To do so, follow the steps below.

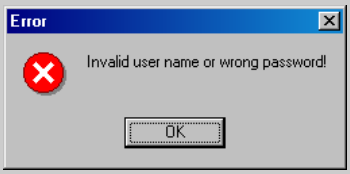
1. Select Administration → Change Password.



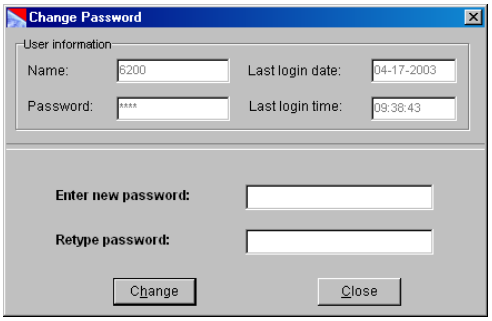
2. A Password Check window will appear. Enter the User ID and Password.



If the name and password entered are inconsistent with the currently logged in user, an error message will occur and the operation will be canceled.



3. If the correct name and password have been entered, a Change Password window will pop up. Enter the new password twice for verification.



4. Click Change to accept the new password.

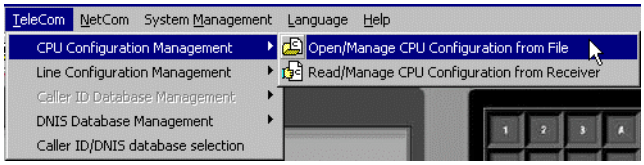
4.6 TeleCom Configuration

4.6.1 CPU Configuration

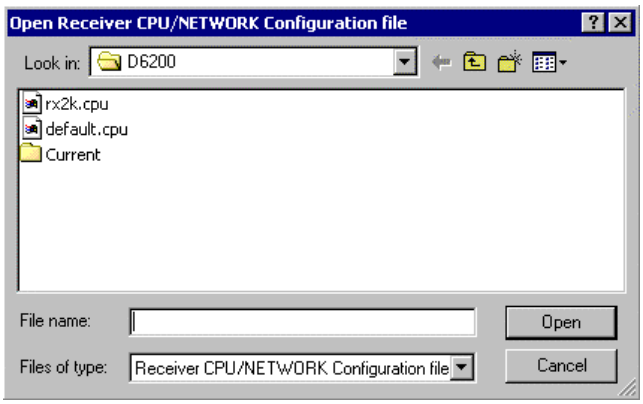
Opening the configuration file

This option loads the CPU configuration file that is saved on the Host PC.

1. From the D6200 interface, select TeleCom → CPU Configuration Management → Open/Manage CPU Configuration from File

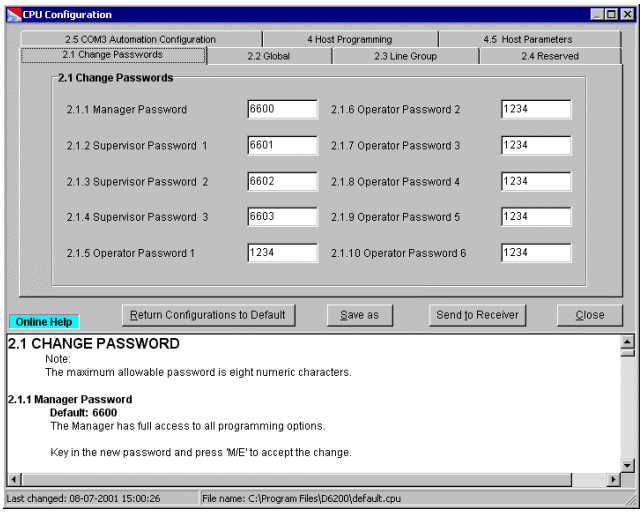


2. A dialog box appears where the configuration file is selected.



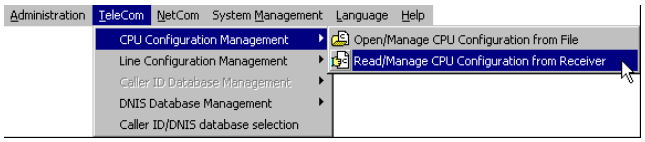
3. Select the desired configuration file and click the Open button.

4. The configuration file opens.

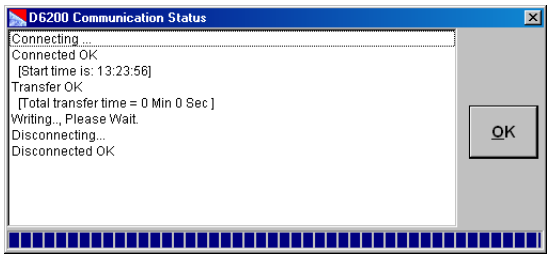


Reading the configuration file

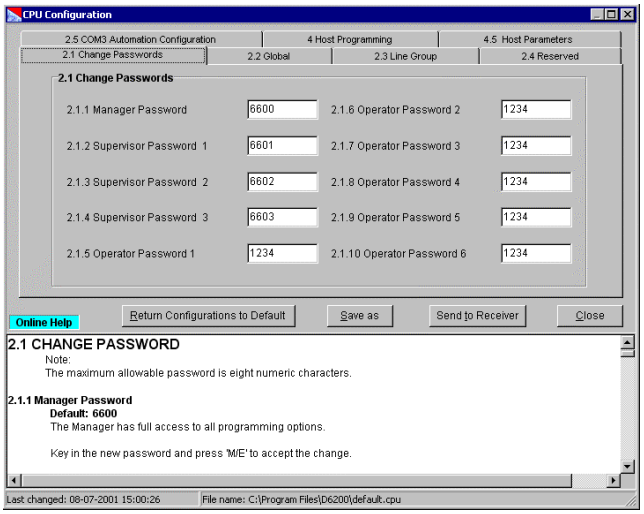
1. From the D6200 interface, select TeleCom → CPU Configuration Management → Read/Manage CPU Configuration from Receiver



2. A communication status window appears and shows the status of the Host PC connecting to the receiver and reading the configuration file.



3. The configuration file opens.



Editing the configuration file

1. Change the individual parameters as desired.

Sending the configuration file

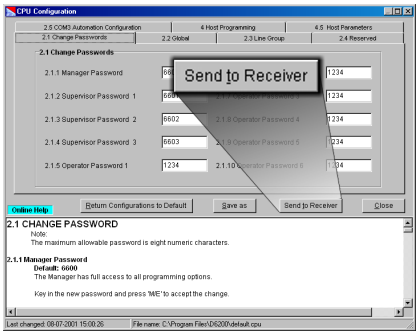
After modifying options from the D6200 interface you must send back to the receiver for the changes to take effect.

Sending the appropriate parameter file from the D6200 to the receiver must be done while it is open. Parameter changes will take effect immediately at the receiver. For example, after modifications have been made to the line formats, updating the line card would be appropriate.

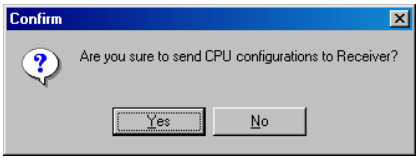
You will be prompted to save the parameter files on the Host PC before they can be sent to the D6600. Please select an appropriate filename prior to download.

1. After modifying options from the D6200 interface, press the Send to Receiver button from within the appropriate parameter file to send it from the D6200 to the receiver.

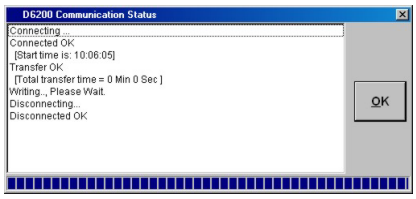
   Parameter changes will take effect immediately at the receiver.



2. A confirmation window will appear verifying if the file should be sent to the receiver



3. A communication window will appear showing the status of sending the parameter file to the receiver.



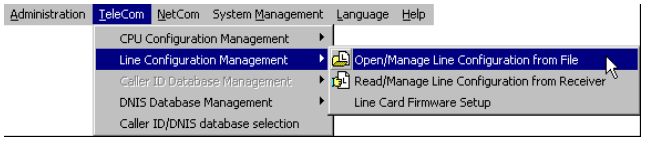
4. When the status bar is full, click the OK button to close the window. The parameter file is in the receiver.

4.6.2 Line Card Configuration

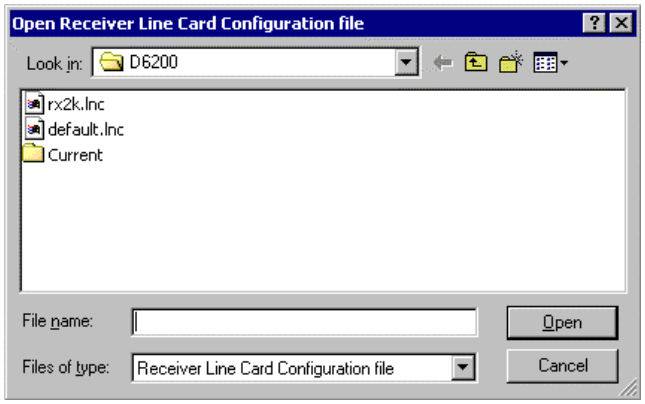
Opening the configuration file

This option loads the CPU configuration file that is saved on the Host PC.

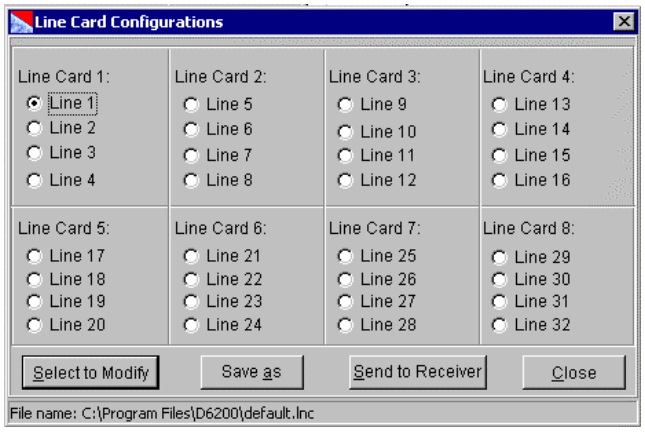
1. From the D6200 interface, select TeleCom → Line Configuration Management → Open/Manage Line Configuration from File



2. A dialog box appears where the configuration file is selected.

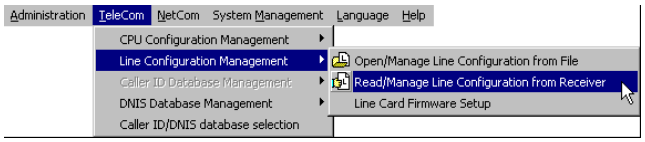


3. Select the desired configuration file and click the Open button.
4. The configuration file opens.

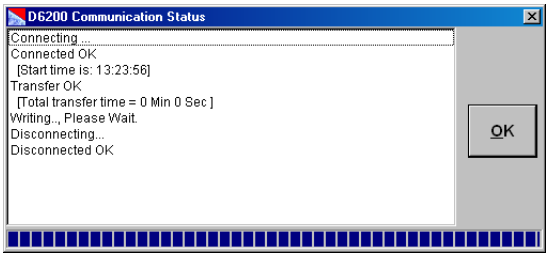


Reading the configuration file

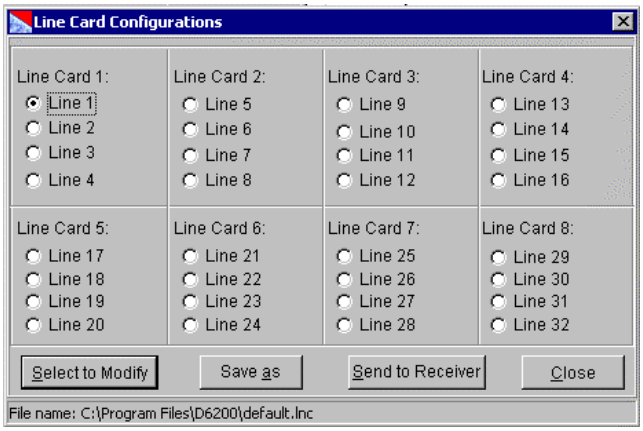
1. From the D6200 interface, select TeleCom → Line Configuration Management → Read/Manage Line Configuration from Receiver



2. A communication status window appears and shows the status of the Host PC connecting to the receiver and reading the configuration file.



3. The configuration file opens.



Editing the configuration file

1. Change the individual parameters as desired.

Sending the configuration file

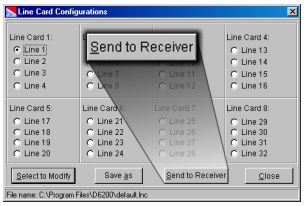
After modifying options from the D6200 interface you must send back to the receiver for the changes to take effect.

Sending the appropriate parameter file from the D6200 to the receiver must be done while it is open. Parameter changes will take effect immediately at the receiver. For example, after modifications have been made to the line formats, updating the line card would be appropriate.

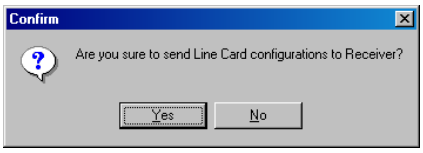
You will be prompted to save the parameter files on the Host PC before they can be sent to the D6600. Please select an appropriate filename prior to download.

1. After modifying options from the D6200 interface, press the Send to Receiver button from within the parameter file to send it from the D6200 to the receiver.

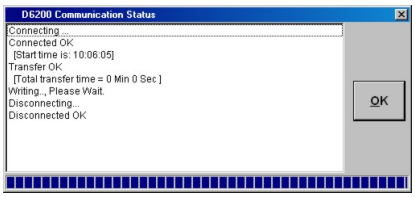
   Parameter changes will take effect immediately at the receiver.



2. A confirmation window will appear verifying if the file should be sent to the receiver



3. A communication window will appear showing the status of sending the parameter file to the receiver.



4. When the status bar is full, click the OK button to close the window. The parameter file is in the receiver.

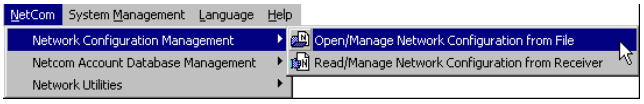
4.7 NetCom Configuration

4.7.1 Network Configuration

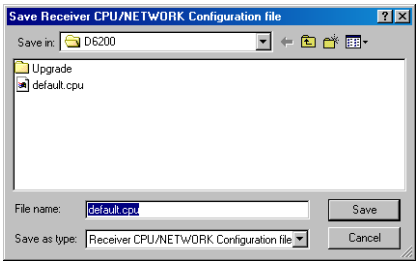
Opening the configuration file

This option loads the CPU configuration file that is saved on the Host PC.

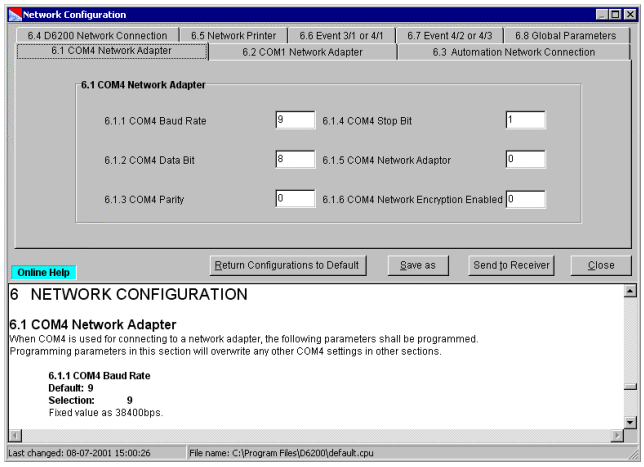
1. From the D6200 interface, select NetCom → Network Configuration Management → Open/Manage Network Configuration from File



2. A dialog box appears where the configuration file is selected.



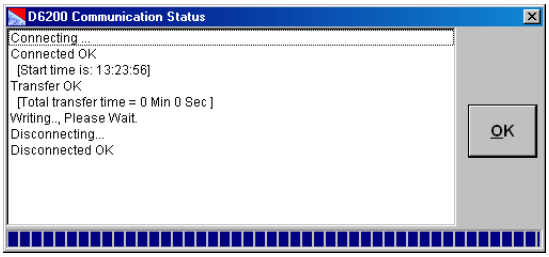
3. Select the desired configuration file and click the Open button.
4. The configuration file opens.



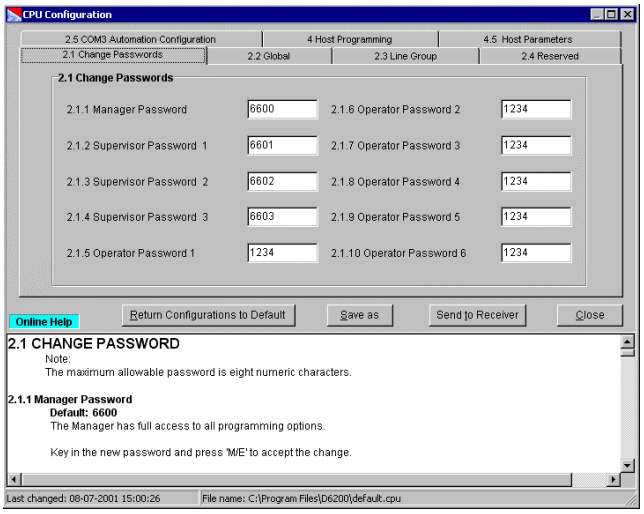
Reading the configuration file

1. From the D6200 interface, select NetCom → Network Configuration Management → Read/Manage Network Configuration from Receiver.

2. A communication status window appears and shows the status of the Host PC connecting to the receiver and reading the configuration file.



3. The configuration file opens.



Editing the configuration file

1. Change the individual parameters as desired.

Sending the configuration file

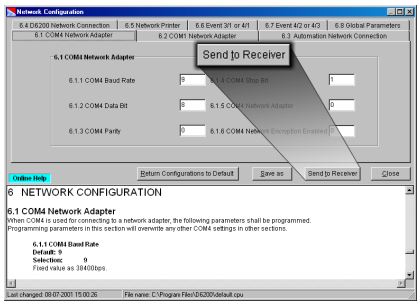
After modifying options from the D6200 interface you must send back to the receiver for the changes to take effect.

Sending the appropriate parameter file from the D6200 to the receiver must be done while it is open. Parameter changes will take effect immediately at the receiver. For example, after modifications have been made to the line formats, updating the line card would be appropriate.

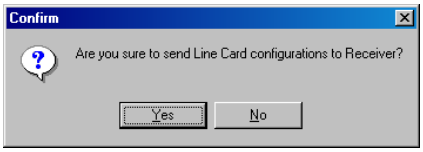
You will be prompted to save the parameter files on the Host PC before they can be sent to the D6600. Please select an appropriate filename prior to download.

2. After modifying options from the D6200 interface, press the Send to Receiver button from within the appropriate parameter file to send it from the D6200 to the receiver.

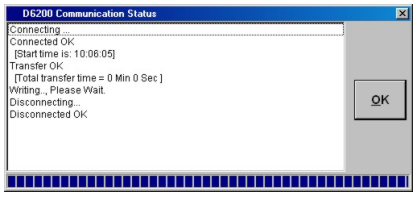
   Parameter changes will take effect immediately at the receiver. For example, after modifications have been made to the line formats, updating the line card would be appropriate.



3. A confirmation window will appear verifying if the file should be sent to the receiver



4. A communication window will appear showing the status of sending the parameter file to the receiver.

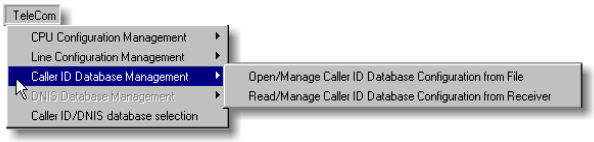


4.8 Databases

4.8.1 Caller ID

The Caller ID Database can only be accessed through the D6200 software. Its purpose is to log all the phone numbers that come into the receiver and associate a handshake to each.

Figure 8: Caller ID Database Management menu



The database can be automatically created by the receiver or manually created.

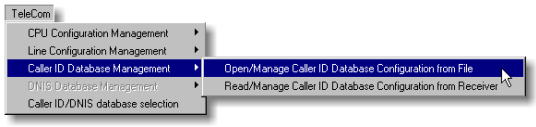
The maximum capacity for this database is 16000 phone numbers. The database is created with the first 16000 phone numbers entered or received.

Handshake Optimization will utilize the caller ID information provided by the PSTN network to create a database of up to 16000 dialers. The receiver uses this Caller ID information to output the handshake required for that particular dialer first. If the dialer does not respond to the optimized handshake the receiver will output the handshakes as they are programmed for that line. The database can be edited manually or automatically, and can be downloaded/uploaded to/from the D6600 using the D6200 software. For more information on the Caller ID Database, see the *D6600 Program Entry Guide* (P/N: 4998122702).

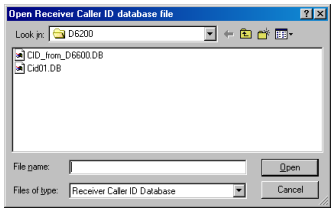
The D6600 is capable of storing only a DNIS Database OR a Caller ID Database at one time, not both

Opening the database

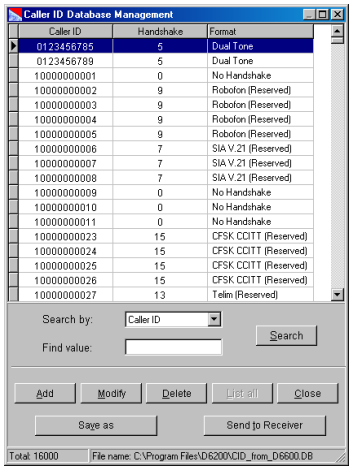
1. From the D6200 interface, select TeleCom → Caller ID Database Management → Open/Manage Caller ID Database Configuration from File.



2. A dialog box appears listing database files. Select a file and, click Open to open the database file.

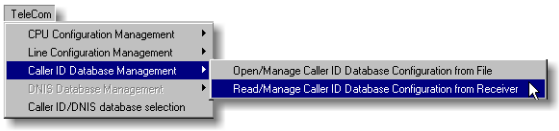


3. The Caller ID Database is now displayed for viewing or editing.

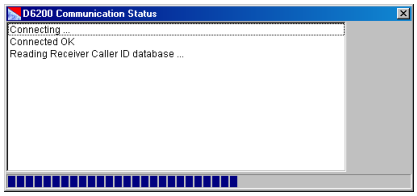


Reading the database from the receiver

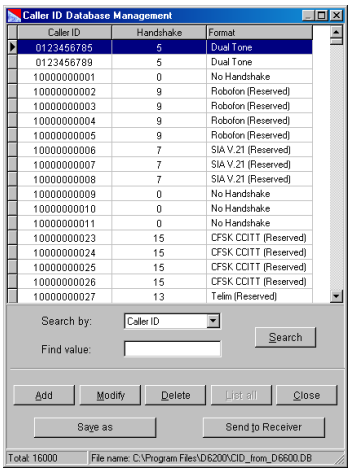
1. From the D6200 interface, select TeleCom → Caller ID Database Management → Read/Manage Caller ID Database Configuration from Receiver.



2. A communication status window appears showing the D6200 reading the Caller ID database from the receiver with a progress bar across the bottom.



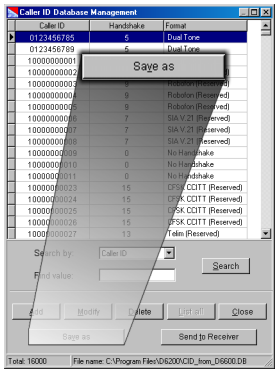
3. When the progress bar reaches the end, the Caller ID database automatically opens. The receiver parameters are now displayed for viewing or editing.



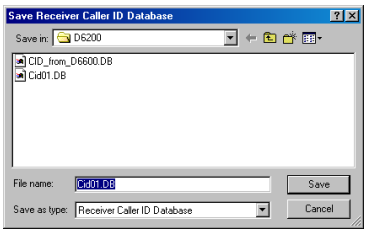
Saving the database with a new name

Account database files can be saved with a different file name. This must be done within the database file.

1. Click the Save As button in the database window.



2. A dialog box appears prompting for a new name.



The new name for the Caller ID Database file must begin with CID.

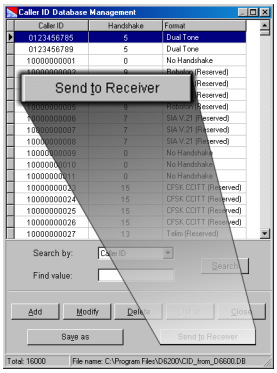
Sending the database

After modifying options from the D6200 interface you must send the database back to the receiver for the changes to take effect.

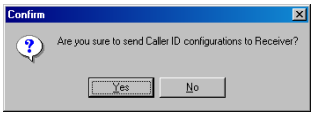
Sending the database file from the D6200 to the receiver must be done while it is open. Parameter changes will take effect immediately at the receiver.

1. After modifying options from the D6200 interface, press the Send to Receiver button from within the database file to send it from the D6200 to the receiver.

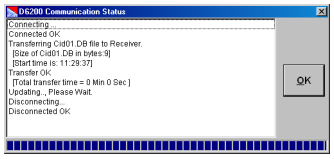
   Parameter changes will take effect immediately at the receiver.



2. A confirmation window appears verifying that the database is to be sent to the receiver.



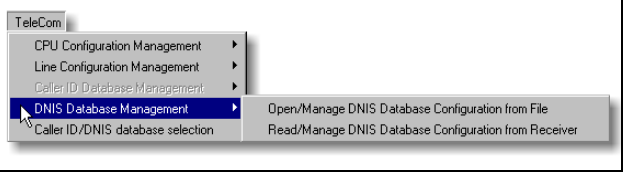
3. A communication status window appears showing the status of sending the database to the receiver.



4.8.2 DNIS

DNIS stands for Dialed Number Identification Service. The DNIS Database is used to identify the proper handshake and communication format based on the DNIS account number received and can only be accessed through the D6200 software.

Figure 9: DNIS Database Menu Commands

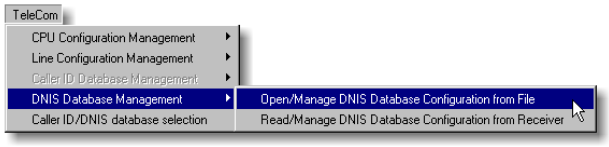


The maximum capacity is 2000 DNIS accounts. All accounts must be manually entered using the D6200 software.

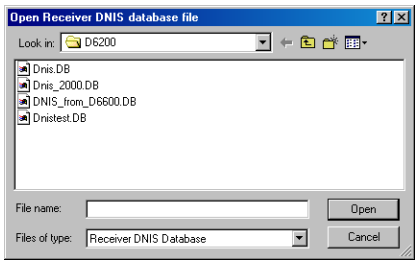
See the *D6600 Program Entry Guide* (P/N: 4998122702) for more details

Opening the database

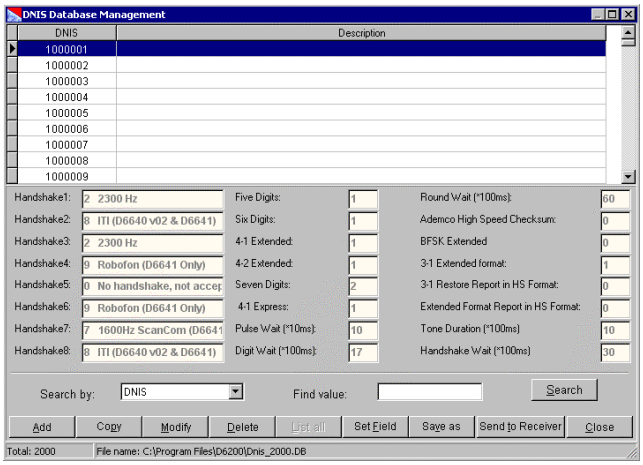
1. From the D6200 interface, select TeleCom → DNIS Database Management → Open/Manage DNIS Database Configuration from File.



2. A dialog box appears listing database files. Select a file and, click Open to open the database file.

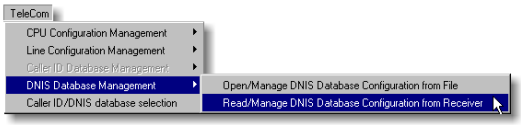


3. The receiver parameters are now displayed for viewing or editing.

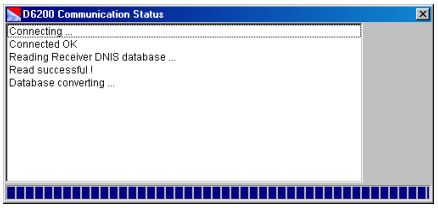


Reading the database from the receiver

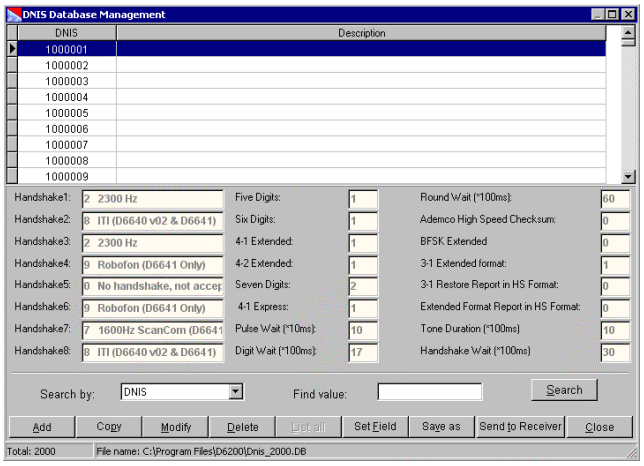
1. From the D6200 interface, select TeleCom → DNIS Database Management → Read/Manage DNIS Database from Receiver.



2. A communication status window appears showing the D6200 reading the DNIS database from the receiver with a progress bar across the bottom.



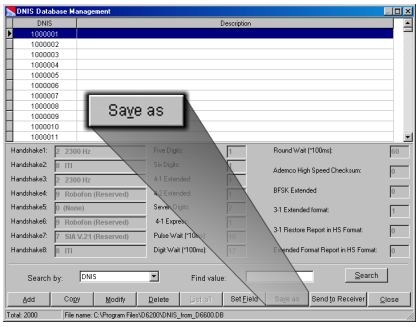
3. The DNIS Database is now displayed for viewing or editing.



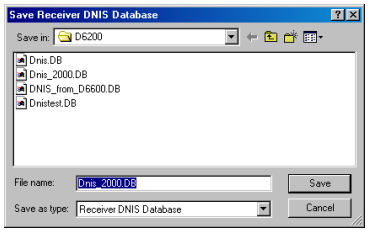
Saving the database with a new name

Account database files can be saved with a different file name. This must be done within the database file.

1. Click the Save As button in the database window.



2. A dialog box appears prompting for a new name.



The new name for the DNIS Database file must begin with DNIS.

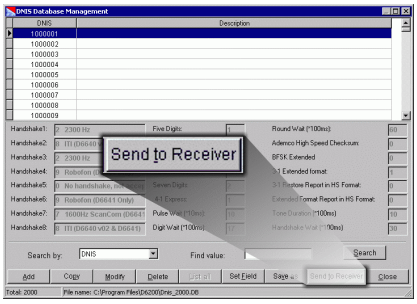
Sending the database

After modifying options from the D6200 interface you must send the database back to the receiver for the changes to take effect.

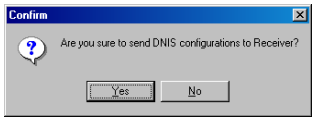
Sending the database file from the D6200 to the receiver must be done while it is open. Parameter changes will take effect immediately at the receiver.

1. After modifying options from the D6200 interface, press the Send to Receiver button from within the database file to send it from the D6200 to the receiver.

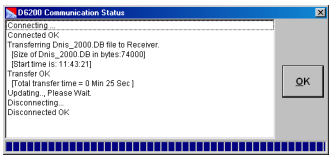
   Parameter changes will take effect immediately at the receiver.



2. A confirmation window appears verifying that the database is to be sent to the receiver.



3. A communication status window appears showing the status of sending the database to the receiver.



4.8.3 NetCom Accounts

Before the D6600 can begin to supervise control panels connected to the network via Bosch Security Systems D9133s or C900s, the D6600 Account Database must be programmed to include information about each NetCom account*. The programming of field accounts is stored within the D6600 in a file called the Account Database File. This file holds all of the necessary information the D6600 needs to process signals and manage/supervise field accounts.

* Account databases are either ALL NNC (NetCom Naming Convention) or ALL Static IP Addresses. Be sure to enable or disable NNC accordingly prior to opening and editing any account database.

All account database configurations will be lost in the D6600 when the D6600 is rebooted. Be sure to save all database configuration changes to the "ACTXX.DB" (where xx = file name string) file with the D6200. The database must then be reloaded into the D6600 after the D6600 has been rebooted.

NetCom Account databases are maintained in both the D6600 Receiver and the D6200 Programming Software in one of two possible modes, either NNC mode, or Static IP mode.

NetCom Naming Convention (NNC)

NNC mode is enabled in the D6600 by setting Global Parameter 6.8.5 NNC Enable to 1 (0 = NNC disabled, 1 = NNC Enabled).

Figure 10: NNC Enable in D6600 menu

```
6.8.5 NNC Enable
Current setting [0]
```

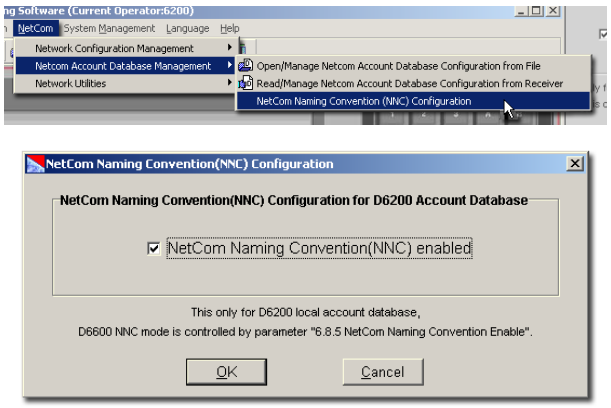
```
Current setting [0]
New Value [0..1]: 1
```

The 9000 Series control panels are capable of a 10-digit account number, but the receiver will only identify the last 8 digits of the account number. For example, if the account number in the control panel is 1234567890, the account number (NNC number) in the database will have to be 34567890.

If running in NNC mode, it is recommended that all account numbers be kept to 8 digits or less.

The D6200 must also have NNC enabled (checked) in the NetCom → Netcom Database Management → NNC Configuration selection (see *Figure 11*).

Figure 11: NNC enabled checkbox



The account database structure within the D6200 Programming software will support NNC Number rather than Static IP Address.

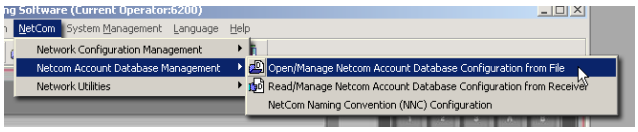
If the NetCom system operates with both static IP addresses and dynamic IP addresses (NNC) the account database must run in NNC mode and all field devices must be able to support NNC. The C900TTL-E must be running version 1.10 or greater and the 9000 Series control panel must be running version 6.30 or greater.

NNC mode references all accounts by either:

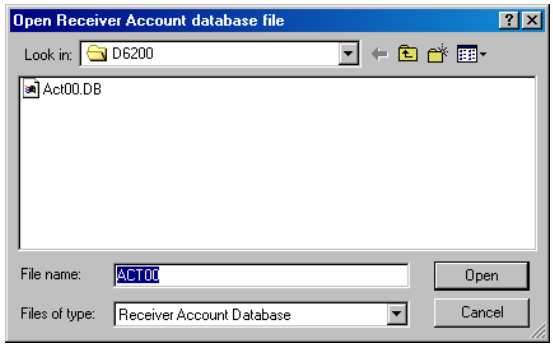
- AREA 1 account code sent from the control panel – when using a D9133TTL-E, DX4020
- Serial number of the C900TTL-E (version 1.10 or greater) dialer capture module.

Opening the database file

1. After determining what type of network you will be hosting and then setting the appropriate menu options, select NetCom → Netcom Account Database Management → Open/Manage Netcom Account Database Configuration from File from the D6200 menus.



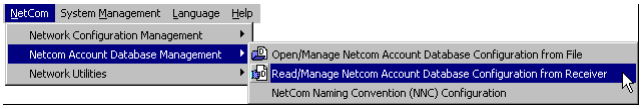
2. If this is a new database, select ACT00 from the file selections and open it.



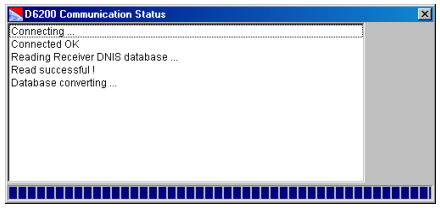
3. The database file opens.

Reading the database from the receiver

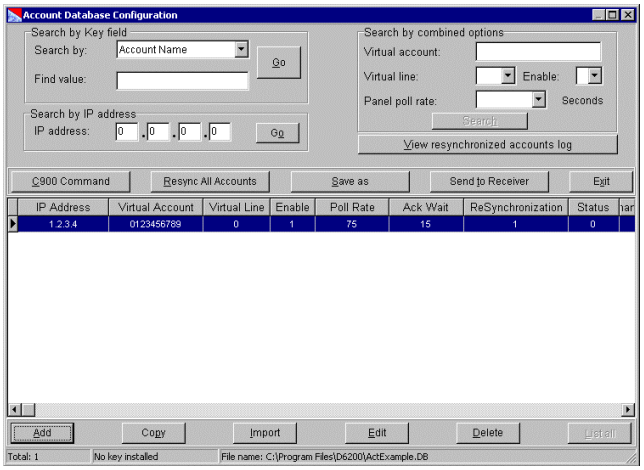
1. From the D6200 interface, select NetCom → NetCom Account Database Management → Read/Manage Netcom Account Database Configuration from Receiver.



2. A communication status window appears showing the D6200 reading the DNIS database from the receiver with a progress bar across the bottom.



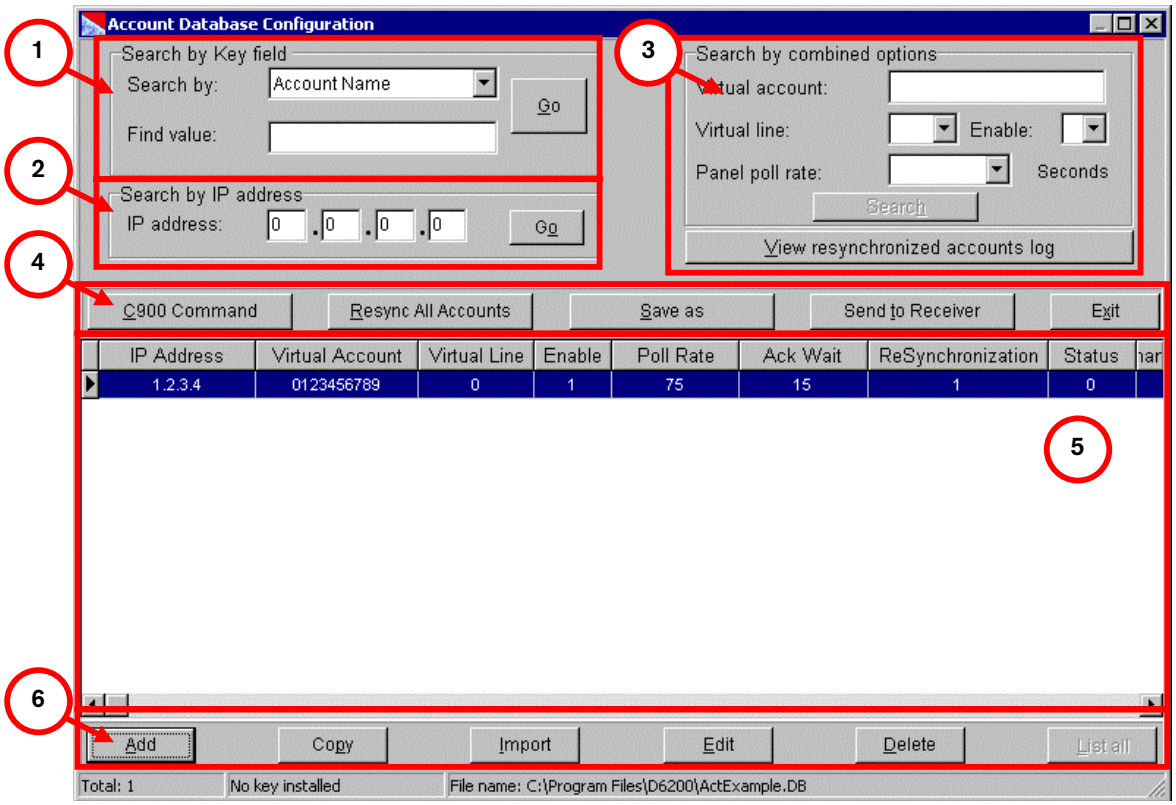
3. The NetCom Account Database is now displayed for viewing or editing.



Editing the database file

The following screen captures illustrate all the options available in the account database using static IP addresses. If NNC is enabled, all options will remain the same except that IP Address fields will be replaced by NNC Number fields.

Figure 12: NetCom Account Database Configuration



1 - ***Search by Key field*** *- Allows account searching by key field. (See Search by key field in section entitle "Search for an Account.")*

2 - ***Search by IP Address (or NNC number)*** *- Allows account searching by IP Address or NNC number. (See Search by NNC Number/IP Address in section entitle "Search for an Account.").*

3 - ***Search by combined options*** *- Allows account searching by Virtual Account Number, Virtual Line, Panel Poll Rate or Communication Enabled/Disabled. (See Search by combined options in section entitled "Search for an Account.").*

4- ***Database file options*** *- These options affect the database file as a whole.*
C900 Command – see Section 4.8.5 C900 Commands.
Resync All Accounts
Save as - see Section 4.8.3 NetCom Accounts, Saving the database with a new name
Send to Receiver - see Section 4.8.3 NetCom Accounts, Sending the database.

5 - ***Account listing*** *- A listing of all accounts in the currently open database*

6 - ***Account options*** *- These options affect the individual accounts in the database.*
Add - see Section 4.8.3 NetCom Accounts, Add/Edit an Account
Copy - see Section 4.8.3 NetCom Accounts, Copy an Account
Import - See Section 0.1.3 Import an Account
Edit - see Section 4.8.3 NetCom Accounts, Add/Edit an Account
Delete - see Section 4.8.3 NetCom Accounts, Delete an Account

Add/Edit Account

Once the database is open, select each individual account by clicking and highlighting, then pressing the Edit button. Or, you can press the Add button to add a new account to the database.

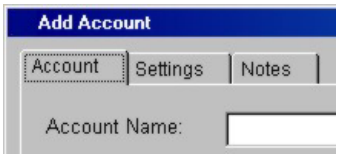
> Each account must have a unique static IP address or NNC Number - duplicates are not allowed. If an account is entered that already exists (when attempting to Add), the D6200 will display an error message that the IP Address/NNC Number already exists.

Press the Add button (see #6, *Figure 12*) for each new account and proceed to configure each account as necessary.

> Area One Account Number in the 9000 Series control panel cannot be more than 8 digits when operating in NNC mode.

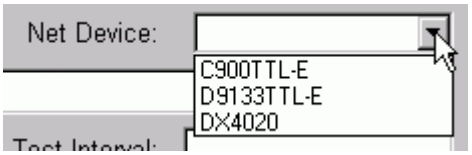
> All field devices on a single network must operate on static IP addresses OR NNC mode. IP address identification AND Area one account/serial number identification cannot exist in the same database. However, statically assigned NIMs can be identified by the Area 1 Account Number or Serial Number, allowing static devices to be supervised from a NNC database.

Each account listing has 3 tabs of data options. Select the tab at the top of each screen to view or modify.



Account

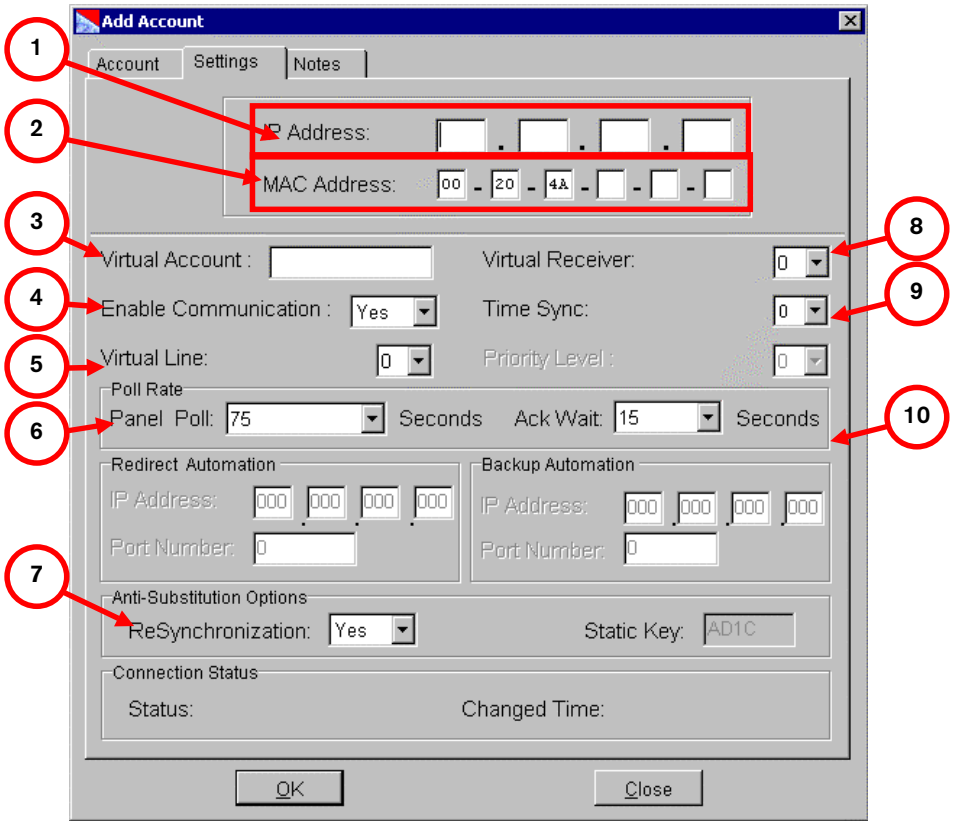
Be sure to select the appropriate Net Device type on the ACCOUNT screen.



Also enter all other pertinent data on this screen (optional).

Settings Tab

Figure 13: Settings Tab



1 - IP Address/NNC Number
2 - MAC Address
3 - Virtual Account
4 - Enable Communications
5 - Virtual Line
6- Poll Rate
7 - Anti-Substitution (Resynchronization)
8 - Virtual Receiver
9 - Time Sync
10 - Ack Wait

IP Address/NNC Number (see #1, Figure 13)

For a STATIC account, enter the IP Address of each NIM in the database on the SETTINGS screen for each account (IP Address field)

IP Address: 20 . 96 . 168 . 144

For a NNC account, enter either the SERIAL NUMBER (C900TTL) or the AREA 1 ACCOUNT CODE (D9133TTL).

NNC Number: (Unit's Serial Number) 01020304

MAC Address (see #2, Figure 13)

This 6-byte (12-digit) length address is hard-coded into the device (either a C900TTL-E, D9133TTL-E, or DX4020) and is used to identify the device on the network. Please refer to the NIM's Installation Guide for information on finding the MAC address.

Virtual Account (see #3, Figure 13)

Enter the account number of the control panel as it is to be identified in the automation system.

Virtual Account : 1123

> The number of digits entered for the Virtual Account number must match the number of digits in the dialer account number

> A Virtual Account number is used to identify which control panel has lost its network connection when an "Communication Failure" message appears. If "Virtual Account Replacement is disabled (see Section 6.8.4 Virtual Account Replacement in the *D6600 Program Entry Guide* (P/N: 4998122702). The default message "ACT0000 Communication Failure" will appear. If this is the case, the only way to identify which control panel has lost its network connection is to load the NetCom database from the D6600 into the D6200 and view the individual account states.

Enable Communications (see #4, Figure 13)

Enables or disabled communication between the NetCom control panel and D6600.

Enable Communication : Yes

Virtual Line (see #5, Figure 13)

Enter the line number from 0 to 34 only if it is used by the automation system in combination with the alarm control panel account number in identifying the control panel/account. If the line number is not used, enter 0.

Virtual Line: 0

Poll Rate (see #6, Figure 13)

Poll Rate should be set to match the account's (control panel or C900) Poll Rate.

Poll Rate
Panel poll: 75 Seconds

> Entering a value via the D6600 keypad that is not a multiple of five will result in that value being rounded down to the nearest value. Ex: if 91 seconds is entered, the value is rounded down to 90 sec

This value (in multiples of 5 seconds) determines the time the receiver expects a poll from the control panel. The D6600 will report an Off Normal status after a missed poll plus programmed Ack Wait Time (see Ack Wait). It is recommended that poll rates remain consistent for all control panels within the same network.

The receiver can monitor a polling range from 0 to 1275 seconds The 9000 Series control panel can send a range of polls from 0 to 65,535 seconds. Please program the 9000 control panel poll rate within the receivers capabilities (0 to 1275 seconds).

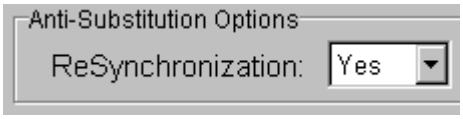
The C900's poll rate ranges from 0 to 255 seconds using the C900 control commands from the D6200 software or has poll selection of 30 or 240 seconds depending on the DIP switch position on the board. Any C900 Control Command sent from the D6200 software to the receiver, which in turn sends to the selected C900 device, will supercede any DIP switch settings. if the C900 is rebooted, the DIP switch settings will then take affect.

Please insure that the control panel's programmed poll rate and the poll rate entered into the NetCom database are the same or as close as possible.

> C900 v1.10 or greater has a 75 seconds default poll rate when DIP Switch 7 is in the OFF position.

Anti-Substitution (Resynchroization) (see #7, *Figure 13*)

ReSynchronization must be set to YES if employing Anti-substitution/Anti Replay protection. Please see Section 3.16 Understanding Panel Substitution & Replay "Hacking" Attacks and Section 3.17 Implementation of the Anti-Substitution Protection System for most information.



Yes - Receiver will issue a new static key* to this account the next time it communicates with the control panel.

No - Receiver will not issue a new static key*, the control panel must use the key it received from the first communication it had with the receiver. If this key is incorrect, the communication will cause an alarm.

* Static keys are issued by the receiver to all new accounts. If the panel side supports this 'key', the communication becomes more secure because substitution and replay will be ruled out.

Virtual Receiver (see #8, *Figure 13*)

Since the D6600 can handle multiple PSTN lines, each account must have a different receiver number.

0 - The D6600 will use a common receiver number programmed in Receiver/Gateway Prompt in the D6600 (Menu Item 2.2.30).

01 to 99 - The D6600 will use this number for sending information from the NetCom Account to the automation software.

Time Sync (see #9, *Figure 13*)

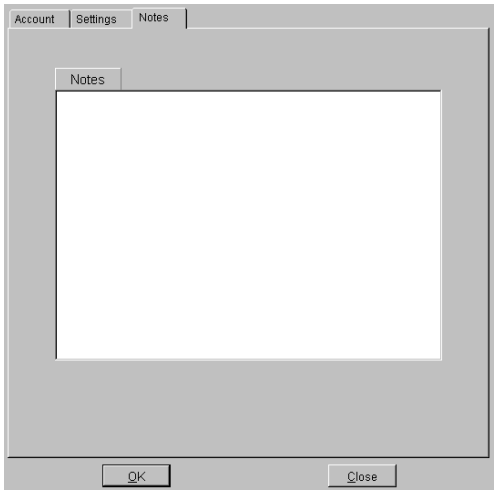
If the account is a D9133TTl-E connected to a 9000 Series Control Panel running software version 6.3 or greater, the receiver can sync the control panel's time with the receiver's time if this section equals "1." If "0" is selected, the times will not be synced.

Ack Wait (see #10, *Figure 13*)

The time (in seconds) that the D6600 will wait after the poll rate interval expires for an ACK message from the NetCom control panel.

Notes tab

This screen is useful for logging information unique to each account.

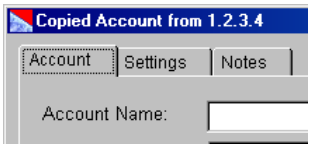


Copy a Account

This command can only be accomplished using the D6200 Programming Software.

To copy an account, do the following:

1. At the Account Database Configuration window, click on the account to be copied in the list of accounts.
2. Click the Copy button.
3. The Account tab will automatically appear with the title "Copied Account from …"



4. Any Account information from the copied account is transferred to the copy with only the IP Address/NNC number left blank.
5. Select the Settings tab.
6. Enter an IP address (or NNC number, if NNC is enabled) for this new account.
7. Click Ok when finished.

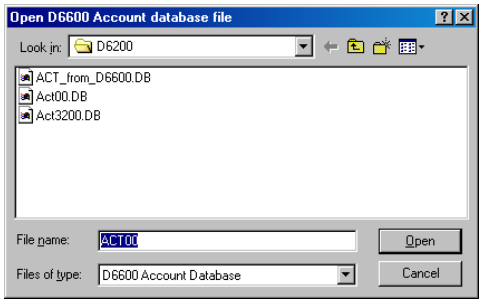
Import an Account

This command can only be accomplished using the D6200 Programming Software.

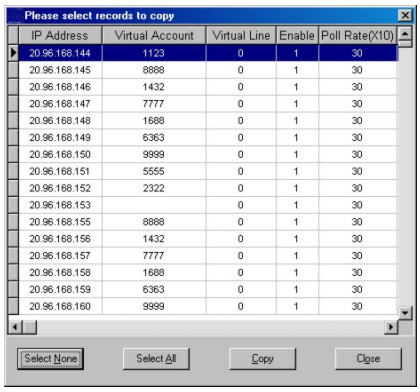
To import an account from another database, do the following:

1. At the Account Database Configuration window, click on the account to be copied in the list of accounts.
2. At the Account Database Configuration window, click the Import button.

3. The Open D6600 Account database file window appears.



4. Select the database where the source account to be copied is residing and open it.
5. Another window appears prompting you to selected the accounts to copy.



6. Click the Copy button to begin the copying process.
7. When the copying is finished, a window will appear reporting the successful status of the copy or any problems.

Click OK

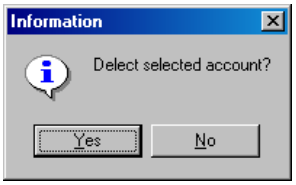
Duplicate account numbers will not be imported.

8. Click Close to exit back to the Account Database Configuration window.

Delete a Account

Deletes the designated IP or Area 1 (if NNC is enabled) account from the database.

1. At the Account Database Configuration window, click on the account to be deleted in the list of accounts.
2. Click the Delete button.
3. A window appears asking for confirmation.



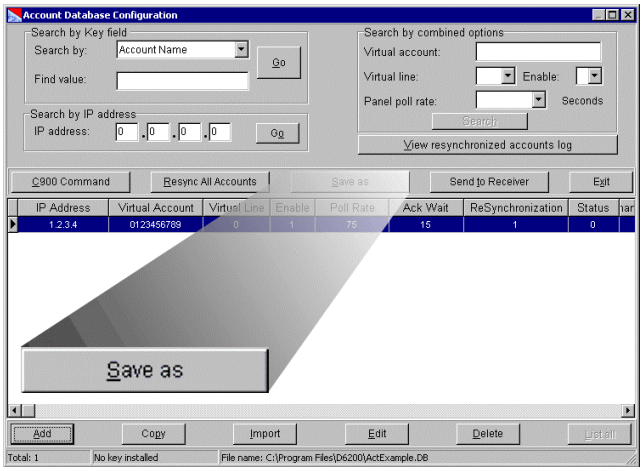
Click Yes.

4. The account is deleted and disappears from the list of accounts.

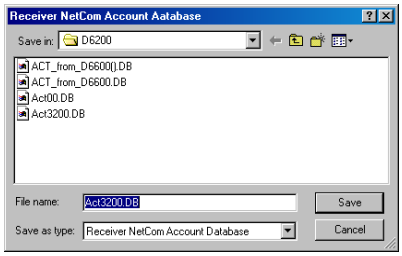
Saving the database with a new name

Account database files can be saved with a different file name. This must be done within the database file.

1. Click the Save As button in the database window.



2. A dialog box appears prompting for a new name.



3. Type in the new name and click Save.

The new name for the DNIS Database file must begin with DNIS.

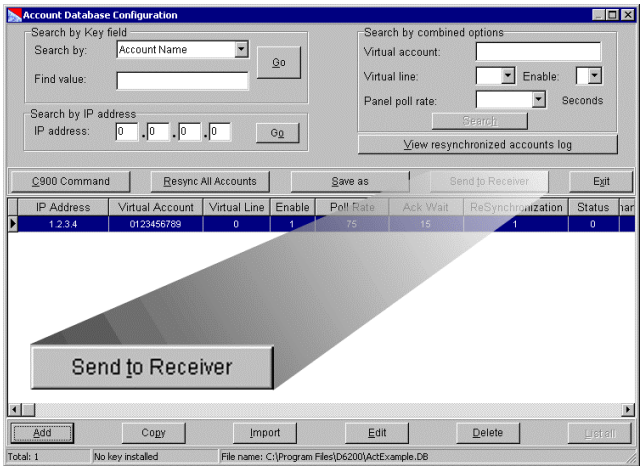
Sending the database

After modifying options from the D6200 interface you must send the database back to the receiver for the changes to take effect.

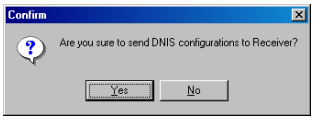
Sending the database file from the D6200 to the receiver must be done while it is open. Parameter changes will take effect immediately at the receiver.

1. After modifying options from the D6200 interface, press the Send to Receiver button from within the database file to send it from the D6200 to the receiver.

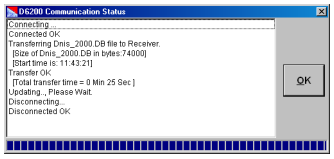
   Parameter changes will take effect immediately at the receiver.



2. A confirmation window appears verifying that the database is to be sent to the receiver.



3. A communication status window appears showing the status of sending the database to the receiver.

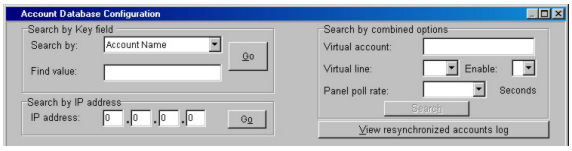


4.8.4 Searching for account

There are three options available in the D6200 Programming Software in searching for an account.

- Search by key field
- Search by NNC Number (if enabled) or by IP Address
- Search by combined options

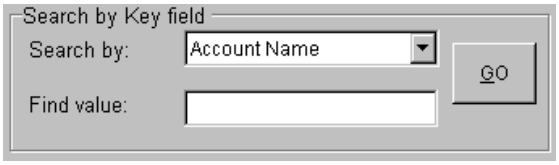
Figure 14: Account Database Search Options



Search by key field

Any of the account fields can be used to search for a particular text string.

Figure 15: Search by Key field



In the "Search by:" the fields available in the drop down list for searching are:

- Account Name
- Administrator
- Virtual Account
- Control panel Type
- Control panel Communication Format
- Zip
- Phone Number
- Fax Number
- Contact 1
- Contact 1 Telephone
- Contact 2
- Contact 2 Telephone
- Contact 3
- Contact 3 Telephone
- Contact 4
- Contact 4 Telephone
- Contact 5
- Contact 5 Telephone
- Time Sync
- Resynchronization

The "Find value:" field is used to enter a specific text string.

When ready to search, press the GO button

Search by NNC Number/IP Address

A specific NNC number or an IP Address can be used as the criteria for finding a account.

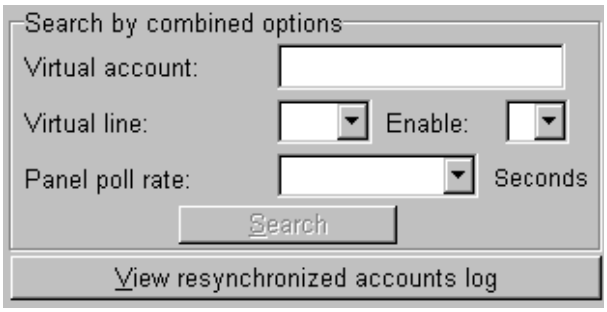
The search box either will be by NNC number or IP Address depending on if NNC Enabled checkbox was checked (see *Figure 11*).

Enter the NNC number or IP Address and click the GO button to initiate the search.

Search by combined options

A combination of Virtual account, Virtual line, Enable and Control panel poll rate search options can be used here to find an account.

Figure 16: Search by combined options

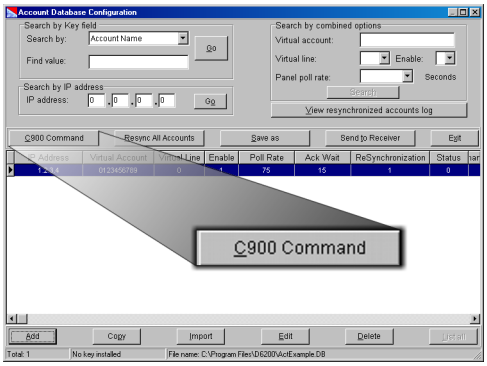


The View resynchronized accounts log button allows the user to view a record of when accounts in the D6200 and the receiver were last synchronized (see Anti-Substitution (Resynchronization)).

4.8.5 C900 Commands

The D6200 is capable of sending commands to C900TTL-E modules that are enabled and active on a NetCom network.

Figure 17: C900 Commands



These commands are accessed from inside an open NetCom Account Database and fall into two categories,

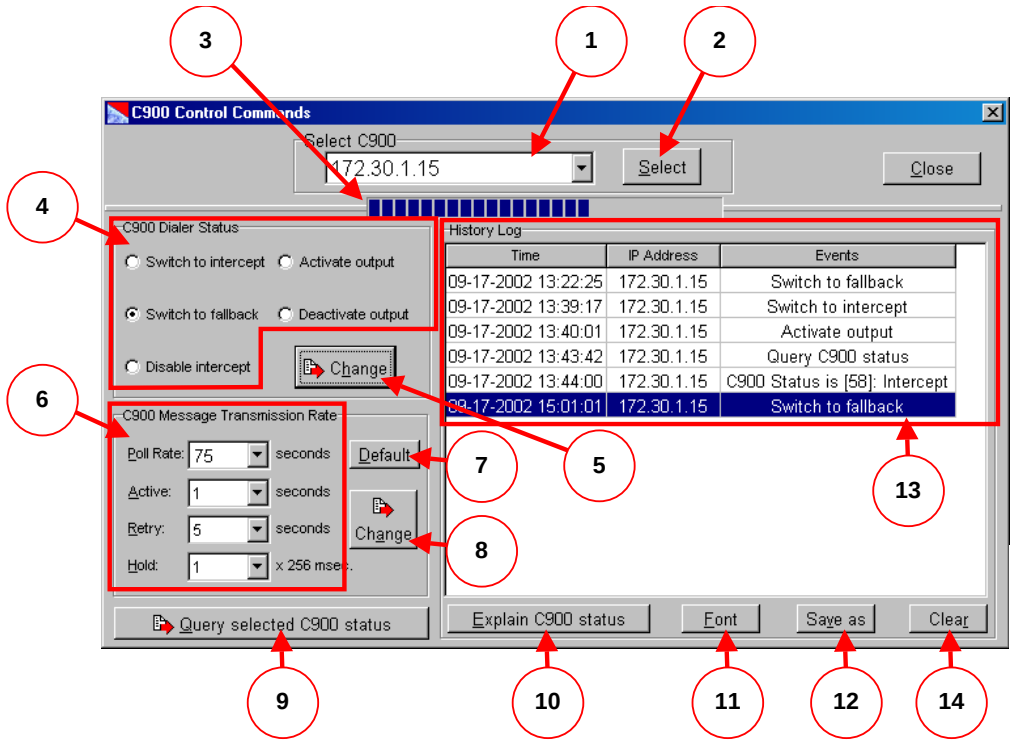
- Dialer Status
- Transmission rate

Sending these commands is a four step process.

1. Select specific C900 module.
2. Select command to be sent.
3. Press the CHANGE button (queues the command).
4. Upon acknowledgement from the C900 following a poll, the command will be implemented.

The numbers in parentheses refer to the numbered callouts in Figure 30.

Figure 18: C900 Control Commands window



1 - *A C900 IP Address or NNC Account must be selected from the Select C900 drop down menu*
2 *Select button*
3 - *Indication of the commands being sent*
4 - *C900 Dialer Status*
5 - *Change button*
6 - *C900 Message Transmission Rate parameters*
7 - *Set defaults*
8 - *Change button*
9 - *Query selected C900*
10 - *Explain C900 Status button*
11 - *Font*
12 - *Save as button*
13 - *History Log screen*
14 - *Clear History*

A C900 IP Address or NNC Account must be selected from the Select C900 drop down menu by pressing the Select button.

Once a C900 has been selected, the C900 Dialer Status and C900 Message Transmission Rate parameters can be modified. After selections have been made, the Change button must be pressed for the commands to be sent to the C900. Indication of the commands being sent is the taskbar slowly advancing.

C900TTL-E commands are delivered to the module only after the C900 sends its poll to the receiver, so once a command is queued and if the module's poll rate is set for 30 seconds, it may take up to 30 seconds for the command to be delivered to the module. Once the ACK from the C900 is displayed in the History Log window, then that module will operate accordingly based on the command sent.

If more than 1 command is queued for a specific module within a single poll period, the C900 will only recognize the last queued command, all other commands will be ignored by the C900.

Any C900 Dialer Status or C900 Transmission Rate changes that are sent to a C900 will be lost in that C900's memory, and the C900 will revert to its default DIP switch settings if that C900 reboots or power is lost. These Dialer Status or Transmission Rate changes must be re-sent following a C900 reboot in order for the C900 to resume operation based on these changes.

The Poll Rate listed under the C900 Transmission Rate is effectively the poll rate that the C900 will use if it is sent to a C900TTL-E. This command will override the DIP switch poll rate setting. If this setting is changed, the Account Database Poll Rate must also be considered to track this modified C900 polling rate in order to maintain polling synchronization. Generally speaking, it will not be necessary for a user to make changes to a C900's Transmission Rate parameters… default settings will provide for reliable network communications in most cases.

All C900 Control activity is displayed on the History Log screen, including commands sent, ACKs from the receiver to sent change commands, and status inquires. This screen is also useful for retaining a record of C900 control programming.

> Any Message Transmission Rate or Dialer Status changes that have been sent to a C900 will be lost if that C900 is rebooted or loses power. These changes must be re-sent to the C900 after reboot if operation previous to the reboot is desired. For this reason, it is strongly recommended that you SAVE the History Log after sending commands to any C900.

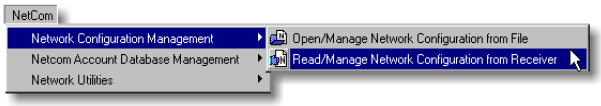
Pressing the Save as button at the bottom of the History Log will save all lines currently displayed in the history log window as a text file in the D6200 folder. The user will be prompted for a filename. This file can later be opened using any text editor if it becomes necessary to resend these changes. These changes must be resent manually.

Changing C900 Transmission Settings & Retrieving C900 Status

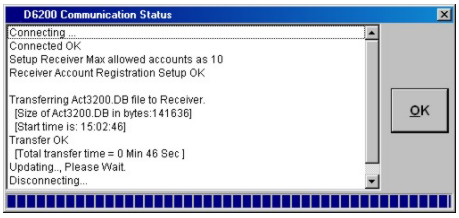
All commands and related C900 status changes will be recorded on the printer and sent to the automation software. Other C900 status messages such as Low Battery, Reboot, and Dialer Diagnostic are also sent to the D6600 where they are processed and sent to the automation computer and the printer.

To send C900 Control Commands,

1. Select NetCom → NetCom Account Database Configuration → Read/Manage NetCom Account Database Configuration from Receiver.



2. A communication status window appears and NetCom Account Database is read from the receiver.



Once the transfer is finished, click OK.

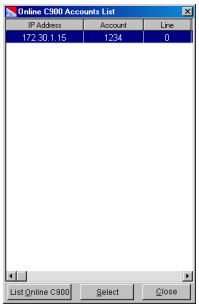
3. Once the account database is open, choose the account where C900 commands are being sent to.

IP Address	Virtual Account	Virtual Line	Enable	Poll Rate	Ack Wait	ReSynchronization	Status
172.30.1.15	1234	0	1	30	15	1	0

4. Click the C900 Command button.
5. To view all C900 accounts, click the List Online C900 button. This will show all online accounts.
6. In the C900 Control Commands window (see *Figure 18*), click the Select button (#2) to choose a C900 account.
7. All C900 accounts that are online (Status=1) will appear in this window (see Figure 19).

   The status of a C900 may have changed since the last time the Account database was read from the D6600 so for an accurate C900 Account status, read the Account database from the D6600 before making any C900 changes.

Figure 19: C900 Accounts



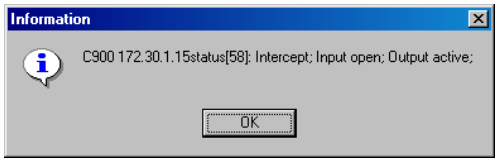
> C900 Status must be1 to send a command to that C900.

8. In the Online C900 Accounts List window select the C900 account that will receive the commands and click the Select button.

9. Select the command that will be transmitted to the C900 (see *Table 5*). Click the change button, this message will be transmitted to the D6600 and then retransmitted to the C900 upon the next poll the D6600 receives from that selected C900. All of these status changes are recorded in the D6200 History Log file.
10. To query the status of an active C900, click the Query selected C900 status button (see #9, *Figure 18*). The real status of the queried C900 will be displayed in the History Log upon the next poll the D6600 receives from that selected C900.

09-17-2002 13:43:42	172.30.1.15	Query C900 status
09-17-2002 13:44:00	172.30.1.15	C900 Status is [58]: Intercept

11. Click the Explain C900 Status button (see #10, *Figure 18*) to get a more detailed explanation.



C900 Command Descriptions

The following sections describe these Control Commands.

Refer to Appendix D: NetCom Messages in the *D6600 Computer Interface Manual* (P/N: 4998122703) for the description of the messages output by the D6600 for these commands.

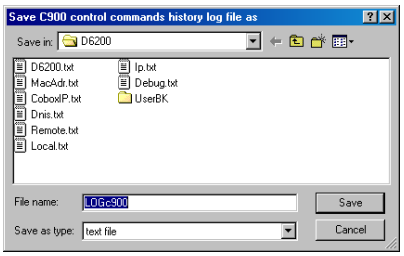
Table 5: C900 Command Descriptions

Command Name		Description
Switch to Intercept	Switch to intercept	This command will force the C900 to work in the Intercept mode. This allows the C900 to receive the dialer signals and then send them to the D6600 NetCom through LAN/WAN.
Switch to Fallback	Switch to fallback	This command will force the C900 to temporarily work in the fallback mode, so that the dialer can use the PSTN to communicate with the central stations. This feature allows the central station to remotely control the dialer for PSTN remote programming. If a C900 is switched to fallback, an optional reminder message can be created every 30 min. This will ensure that the operator is aware the C900 is in the fallback mode and may return the C900 back to the intercept mode for LAN/WAN communications. The C900 will automatically switch to Intercept after one hour of being switched to Fallback or turn to Intercept mode immediately once it has received the command Switch to Intercept.
Disable Intercept	Disable intercept	This command is provided as a measure to remotely remove a defective C900 from service. The dialer will be connected to the PSTN until Intercept is enabled or the C900 reboots.
Activate Output	Activate output	Output #4 is an open collector output that can be used for signaling various conditions by connecting to annunciating devices or directly to a control panel input. This command activates that output.
Deactivate Output	Deactivate output	Output #4 is an open collector output that can be used for signaling various conditions by connecting to annunciating devices or directly to a control panel input. This command deactivates that output.
Poll Rate	Poll Rate: 75 seconds	Upon reboot, the C900 will revert to the DIP switch settings for the poll rate. Poll Rate must be 75 seconds for UL Fire Listed. C900 v1.09 or less has a 30-second default poll rate when dip switch 7 is in the OFF position. C900 v1.10 or greater has a 75-second default poll rate when dip switch 7 is in the OFF position.
Active (C900 Acknowledgement from Dialer)	Active: 1 seconds	This command specifies the time in seconds for the C900 to receive the acknowledgment or other information from the dialer. The C900 will actively wait for the dialer to respond to the Handshake. Valid entry is 0 to 255. If 0 is entered, the default of 1 second is used.
Retry (Elapsed Wait Time)	Retry: 5 seconds	This command specifies the time in seconds that C900 will wait for a response to a message before sending it again. The C900 will retry nine times before deciding that the host has failed. Valid entry is 0 to 255. If 0 is entered, the default of 5 seconds is used. This value should be resent to the C900 after the C900 reboots.
Hold (Before Transmitting Message)	Hold: 1 x 256 msec.	This command specifies the time, in 256 ms increments, that the C900 must wait after receiving any message before it can transmit another message. Valid entry is 0 to 255. If 0 is entered, the default of 256 ms is used.

Save as

This option allows the currently loaded History Log to be saved with a different file name.

Clicking the Save as button will cause a dialog box to appear with the current name highlighted. Typing a new name will overwrite it. Click the Save button to save the a copy of the history log file.



4.9 Network Utilities

4.9.1 Show Accout Status

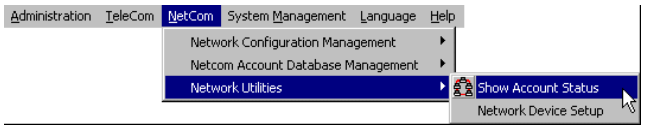
This command allows the operator to view all the accounts in the database in a summary form.

For up-to-date account status, the database must be read into the D6200 from the D6600.

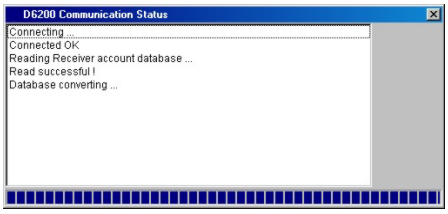
The information about each account shown is:

- IP Address
- Status
- Status Changed Time
- Anti-Sub
- Poll Rate
- Virtual Account Number
- Name

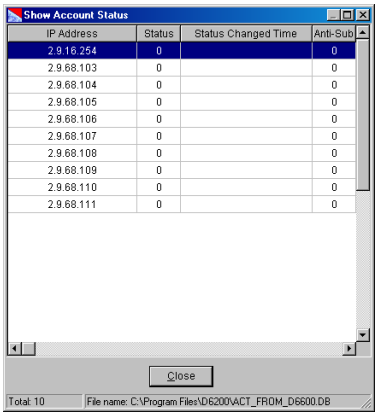
1. Select NetCom → Network Utilities → Show Account Status from the D6200 menus.



2. A communication status dialog box appears showing that the Receiver account database is being read. Once the status bar at the bottom reaches all the way to the right, a "Read successful !" message is displayed and then the message "Database converting…" is briefly displayed before the communication status dialog box disappears.



3. The Show Account Status window will appear showing all the accounts in the database from the receiver.

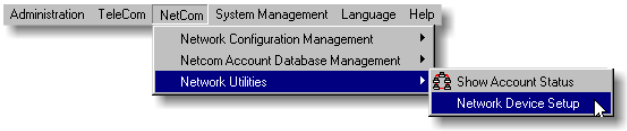


4.9.2 Network device setup

The Network Device Setup command allows the user to configure other network devices that are connected such as the C900TTL-E, D9133TTL-E, DX4020 and D6680.

> If these automated commands don't work properly, see *Section 6.3 Telnetting, IP Assigning and Pinging (Manual)* to manually Telnet to the device, assign the IP address and ping the IP address.

1. Select NetCom → Network Utilities → Network Device Setup.



2. This window is divided into five tabs.
   - Assign IP Address
   - Ping Device
   - Telnet to Device
   - Query Device Information
   - List All NetCom Devices

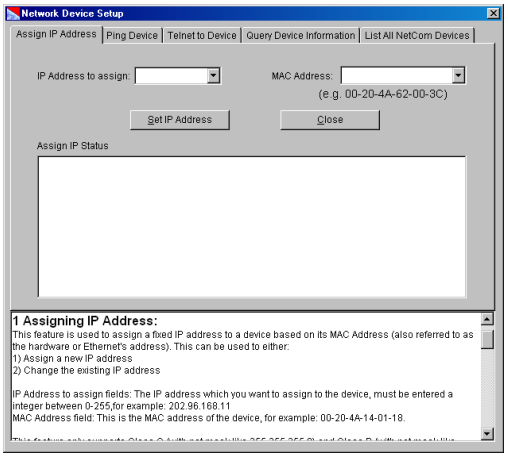
Assign an IP address

This tab is used to assign an IP address to a network device. Here, the user can do the following:

- select or enter an IP address from a drop-down menu of IP addresses
- select or enter a MAC address from a drop-down menu of MAC addresses
- set the IP Address once it is chosen

The bottom third of the window contains an extensive on-line help to guide the user and provide additional information

Figure 20: Network Device Setup – Assign IP Address



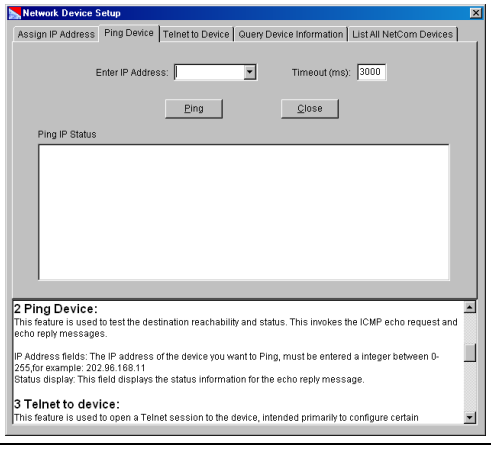
Ping Device

This tab is used to PING the IP address of the network device. Here, the user can do the following:

- enter an IP address or select from a drop-down menu of IP addresses
- enter a timeout interval in mss
- ping the device to verify communication

The bottom third of the window contains an extensive on-line help to guide the user and provide additional information.

Figure 21: Network Device Setup – Ping Device



Telnet to Device

This tab is used to telnet to the network device. Here, the user can do the following:

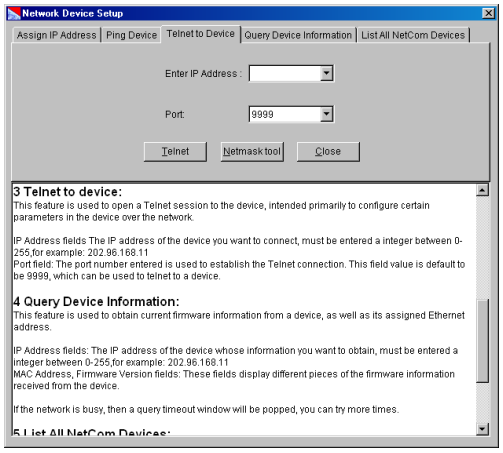
- enter an IP address or select from a drop-down menu of IP addresses
- enter port number or select from a drop-down menu of port numbers
- initiate a telnet session to communicate with the device

The bottom third of the window contains an on-line help to guide the user and provide additional information.

For more information, see the following installation guides:

- C900TTL-E: *C900TTL-E Installation Guide* (P/N: 4998122718)
- D9133TTL-E: *D9133TTL-E Installation Guide* (P/N: 4998122717)
- DX4020: *DX4020 Installation Guide* (P/N: 49522)

Figure 22: Network Device Setup – Telnet to Device

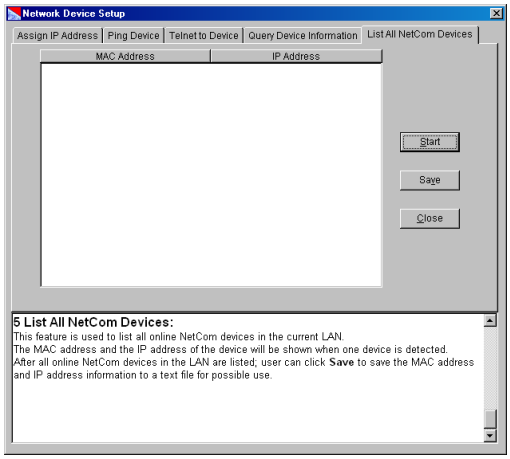


Query Device Information

This tab is used to list all online NetCom devices in the Current LAN. The MAC address and IP address of the devices will be shown as they are detected.

After all online NetCom devices in the LAN are listed, the user can click Save to save the MAC and IP information to a text file.

Figure 23: Network Device Setup – List All NetCom Devices



4.10 System Management

The System Management menu of the D6200 enables you to do the following:

- Download Event Database – This command will send all the events that have occurred in the D6600 Receiver to the PC running the D6200 software.
- Date/Time Synchronization – This command will set the time and date on the receiver to the time and date the PC clock is reading.
- Firmware Version – This command will cause the D6200 to connect with the receiver and retrieve all the version numbers for all the software that is running on the D6600. See *Section 4.10.3 Firmware Version.*

4.10.1 Event Database

It is possible to receive the event database from the D6600 and save it as a file to the Host PC. This is useful for troubleshooting purposes by Bosch Security Systems Technical Support.

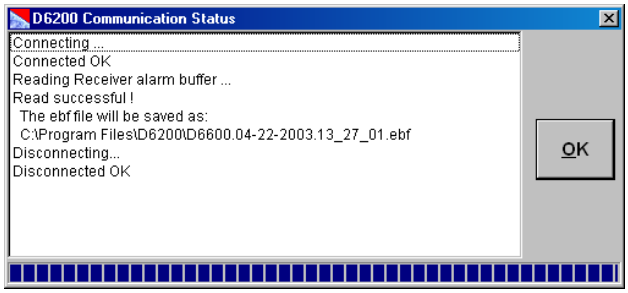
The D6200 software must be used to download the database, it cannot be done from the D6600 keypad. To download the event database and save it to the Host PC:

1. Select System Management → Download Event Database

2. A communication status window will appear showing the status of the firmware connecting to the control panel and reading the event database.

   The filename and path will be also shown of where the database file has been saved.

   In this example the path is C:\Program Files\D6200\ and the name of the file is D6600.04-22-2003.13_27_01.ebf.



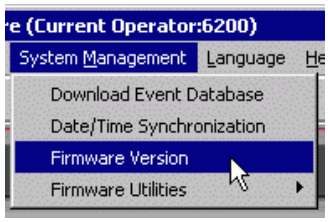
> The database file can only be read by Bosch Security Systems Technical Support.

3. Click the OK button to close the status window and return to the D6200 main screen.

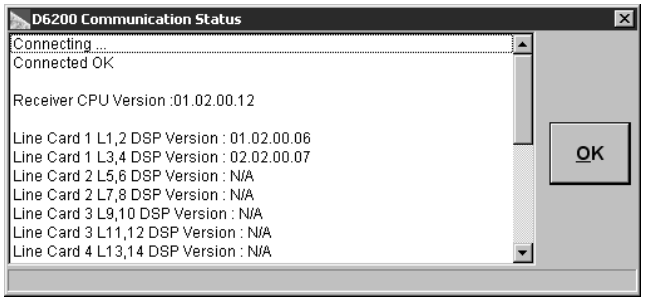
4.10.2 Date/Time Synchronizations

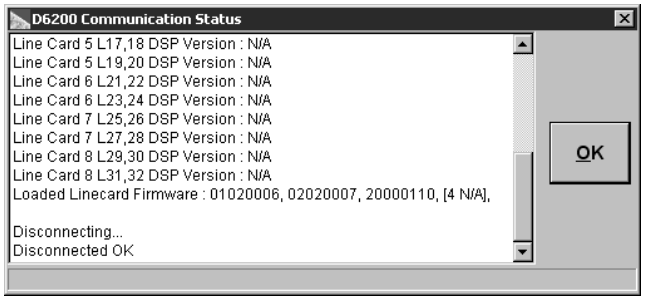
4.10.3 Firmware Version

1. Select System Management → Firmware Version.



2. This will display the CPU and Line Card software versions on your PC.





4.11 Firmware Utilities

- Manual Upgrade Wizard - See below.
- Manual Remote Execute Firmware – Once the files have been copied to the receiver, a command can be sent to execute the software upgrade.

4.11.1 One Button Upgrade Wizard

This feature guides the user through the installation of the firmware so that the receiver is upgraded to the latest firmware properly. It removes any misunderstanding that the customer may have with regards to the upgrading procedure.

Figure 24: One Button Firmware Upgrade Wizard (from Icon Bar)

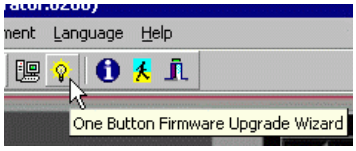
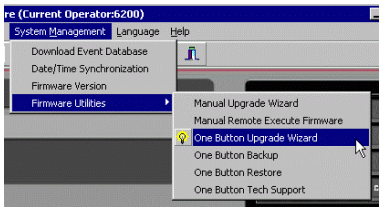


Figure 25: One Button Firmware Upgrade Wizard (from menu)

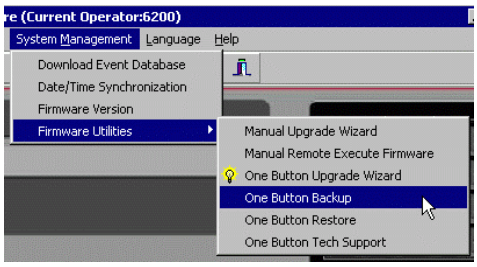


The D6600 must be connected to Automation in order to perform a one button upgrade..

4.11.2 One Button Backup

This feature helps the user backup all the files necessary to reinstall the user configurations and databases at a later date or for them to document any changes made.

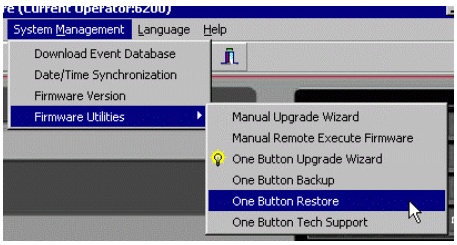
Figure 26: One Button Backup



4.11.3 One Button Restore

This feature helps the user restore all the user configurations and databases back to the receiver.

Figure 27: One Button Restore

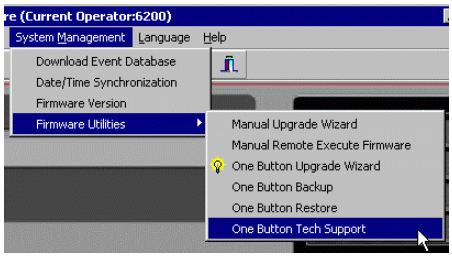


4.11.4 One Button Tech Support

In an effort to further reduce the length of time a customer is with Technical Support, this button places all the files needed by Bosch Technical Support in one compressed file. By pushing this one button, all the necessary files are obtained automatically without the customer manually retrieving each file separately. The files are automatically zipped into one file that can be easily emailed to Bosch Technical Support.

The only difference between this button and the One Button Backup is that the receiver's event database is included in the zip file

Figure 28: One Button Tech Support



4.12 Language and Help Menus

4.12.1 Language Menu

English is the only available language at this time

4.12.2 Help Menu

Shows the help files for both the D6600 and D6200 software and the current D6200 software revision number (see *Figure 29*)

Figure 29: D6200 About window

5.0 Firmware Upgrade Procedure

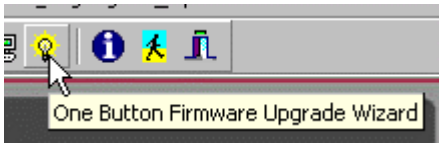
5.1 Performing a one-button upgrade

This feature is an automated process of automatically updating all the firmware in the receiver.

If the One-Button upgrade procedure isn't successful, follow the steps in *Section 6.2 Firmware Upgrade Procedure (Manual)* to manually complete the upgrade.

To begin, follow these steps:

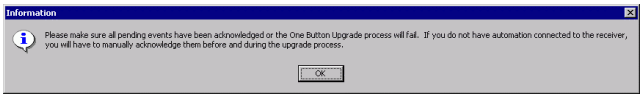
1. Click the one button upgrade button in the icon bar of the D6200



2. A confirmations dialog box appears prompting you to confirm your decision to upgrade.

Click Yes to continue.

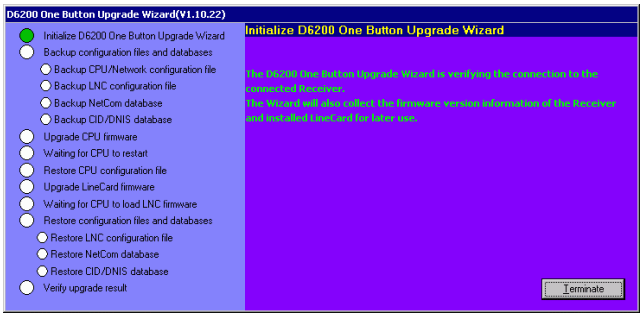
3. Another dialog box appears about automation.



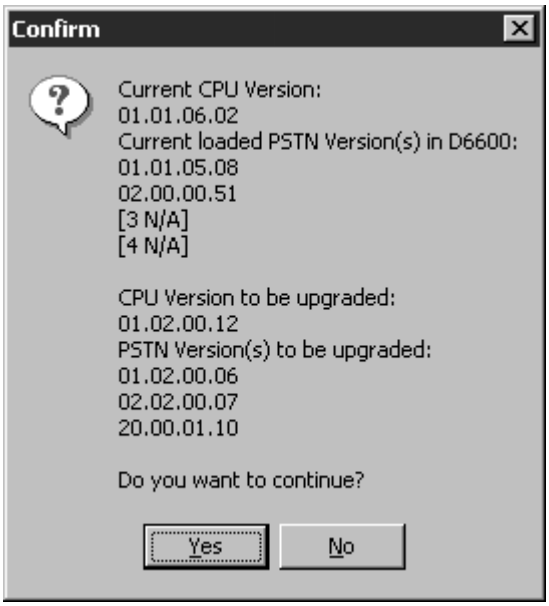
Automation is required for this process, otherwise any pending events that occur will have to manually acknowledged.

Click OK to continue.

4. The One Button Upgrade Wizard starts by verifying the connection between the Host PC and the receiver.

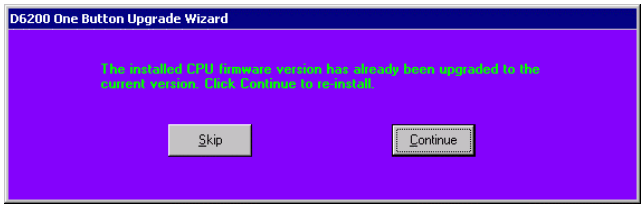


5. Once the connection is established, the wizard will return the version numbers of what is currently installed on the receiver and what the files will be upgraded to.



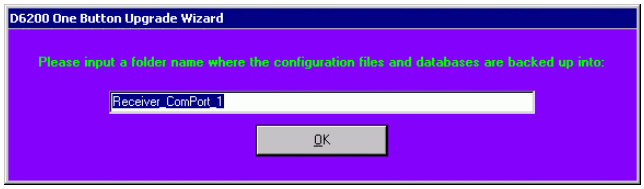
To continue, click Yes.

6. If the CPU version has already been upgraded, the following message appears:



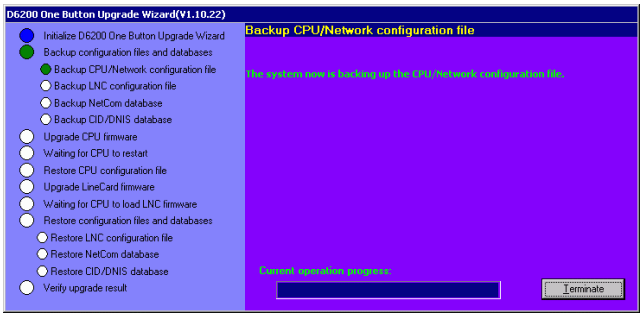
There are two options, to skip upgrading the CPU firmware or continue on.

7. A prompt appears for the name of a folder where the configuration files and databases can be backed up.



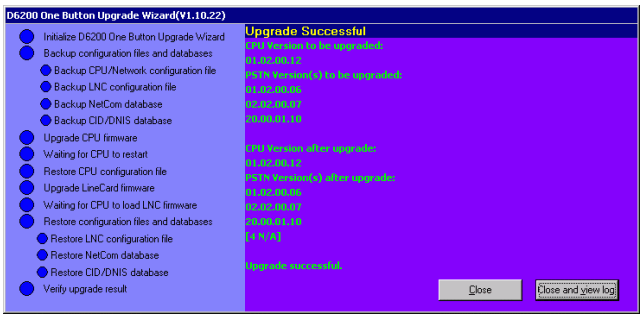
Accept the name shown and click OK.

8. The wizard begins.



Follow the on-screen prompts.

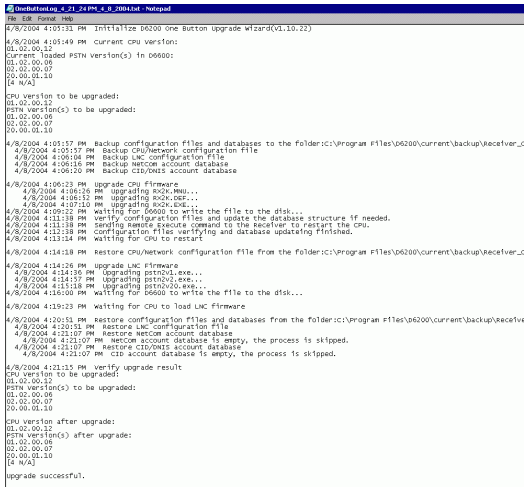
9. When the wizard is finished, "Upgrade Successful" will appear at the top with the new version numbers of all the firmware that was upgraded.



10. A text file log is automatically generated showing the specifics of what the wizard upgraded.

    To see the log, click on the Close and view log button.

    The log opens in Windows Notepad.

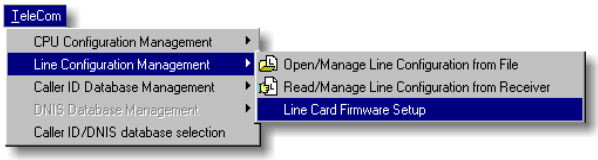


5.2 Line Card Firmware Setup

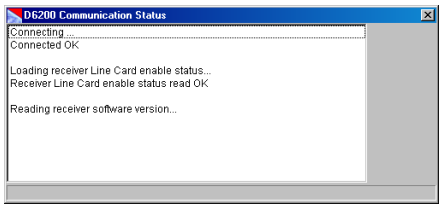
> The D6600's CPU firmware can support up to four different versions of Line Card firmware. Each line card has four lines and is controlled by two Digital Signal Processor (DSP) chips (each pair of lines (1 and 2 or 3 and 4) is controlled by one chip). Up to four versions of line card firmware can be loaded into the D6600 receiver's CPU card, ONLY TWO line card firmware versions will be available per line card. You must select the version you want to run from the Line Card Firmware Setup screen and then click the Accept & Program button to tell the line card to run that version of the firmware.

The Line Card Firmware Setup is only available in the D6200 Programming Software and MUST be used when the D6600 has more than one line card firmware version loaded into the CPU card. The D6200 Programming Software must be on-line with the D6600 Receiver in order to utilize this feature. See *Section 4.2 Connection settings.*

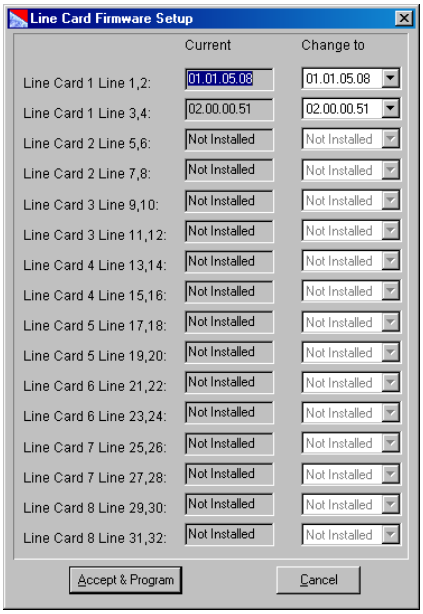
1. To access the Line Card Firmware Setup, click TeleCom → Line Configuration Management → Line Card Firmware Setup.



2. The D6200 Programming Software will connect to the D6600 and read the available line card firmware versions that are loaded into the D6600 receiver's CPU card.



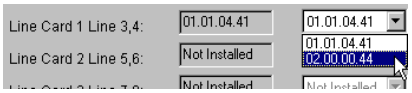
3. The Line Card Firmware Setup window displays all the possible lines in the D6600 receiver. Line Cards that are installed will show the version number in the Current window, those not installed display "Not installed" in the Current window.



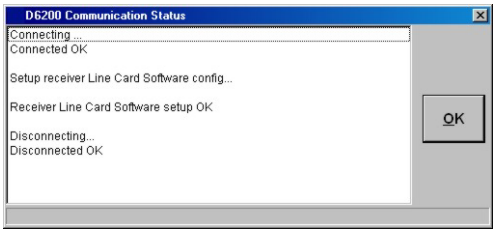
4. To change the firmware version for a pair of lines in a line card, click on the drop-down menu in the Change to: column to display the available versions loaded into the CPU card.

   You can have up to two different versions loaded in a line card (each controlling two phone lines). A maximum of four different versions can be stored in the receiver's CPU card.

5. For example, to change the version number of Line Card 1 Line 3,4 from 01.01.04.41 to 02.00.00.44, click the drop down menu and select "02.00.00.44."



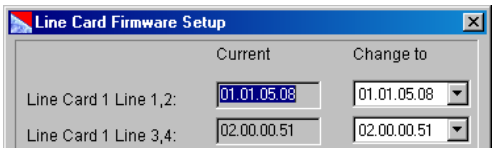
6. Click the Accept & Program button to change the firmware version.
7. The lines for that line card will then reset. The process may take up to 3 min. before the OK button is enabled.



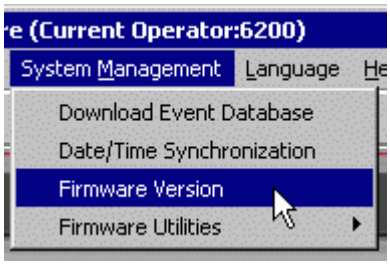
   Click OK.

8. To verify that the lines have been changed, select TeleCom → Line Configuration Management → Line Card Firmware Setup again and the Line Card Firmware Setup window will appear.

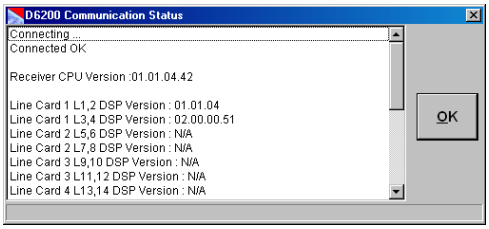
   The new version will appear in the Current column for that line pair (Line Card 1 Line 3,4).



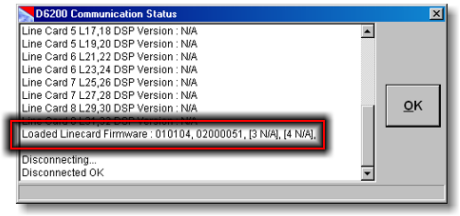
9. To check the firmware version for the CPU and line card firmware, select System Management → Firmware Version.



10. The D6200 Programming Software will communicate with the D6600 Receiver and retrieve the firmware versions of all the line cards then display them in a status window.



11. The status window also shows (in this case) that two versions of the line card firmware have been loaded into the CPU card.

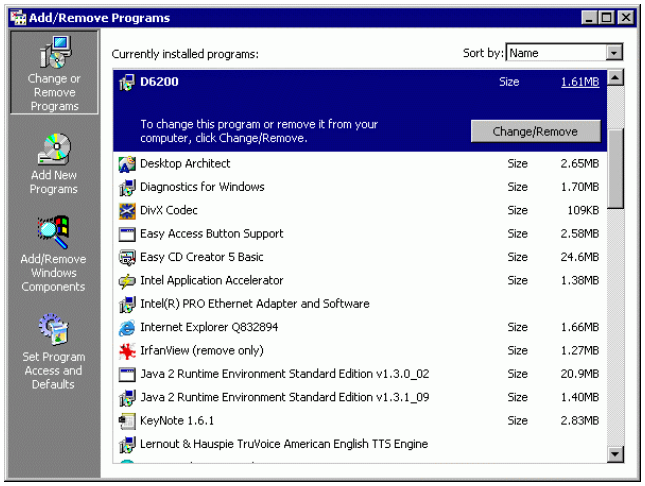


6.0 Troubleshooting

6.1 Uninstalling the D6200 software

To uninstall the D6200 Programming software, follow these steps:

1. Exit out of the D6200 software.
2. Click on the Start Menu and select Settings → Control Panel.
3. Once the Control Panel window opens, click on the "Add/Remove Programs" icon.
4. Find and highlight the listing for the D6200 Programming Software.



5. Click the Change/Remove button to uninstall the software.
6. A dialog box will appear prompting you to confirm removing the D6200 Programming software.

7. Click Yes to continue and follow the on-screen prompts.

6.2 Firmware Upgrade Procedure (Manual)

If the receiver software files are not of the latest revision(s), they should be upgraded. It is recommended that the user upgrade the Software within the D6600 via the D6200 Software when the system is first started up. This insures that you are using the most recent revision of Software. After that, the D6600 can be upgraded whenever upgrades are made available.

6.2.1 Upgrading the D6200

All account database configurations are lost when the D6600 is rebooted. Be sure to save all database configurations that include NetCom account database ("ACTXX.DB") and Caller ID database ("XX.DB") or DNIS database ("XX.DB") files with the D6200. These databases must be reloaded into the D6600 after the D6600 reboots

When upgrading the D6600 with the latest firmware (CPU v01.02.01, PSTN D6640 v01.02.01, PSTN D6640 v02.02.00 and D6641 v20.00.02), it is necessary to use the latest D6200 software (D6200 v01.20). After the software is extracted from the CD-ROM, it is also necessary to read the parameter files from the D6600, save them as XXXX.CPU and XXXX.LNC, install the new firmware versions, and then reload them into the D6600.It is very important that these upgrading steps are performed in the following order:

1. If the ITI format needs to be supported in the D6640, the PSTN firmware (version 02.02.01) must also be loaded into the receiver.
2. Both the newer released versions of CPU and Line Card firmware must be upgraded to the Receiver. An older CPU firmware version will not work with a new Line Card firmware version and vice versa.
3. If you are installing or upgrading the D6641, the PSTN firmware should be v20.00.02.

6.2.2 Backing up the D6600 Configuration and Database Files

Receive the different configuration and Database files from the D6600 and save them as separate files on the Host PC.

CPU/Network Configuration

1. Select TeleCom → CPU Configuration Management → Read/Manage CPU Configuration from Receiver.

   A D6200 Communication Status window appears, a connection is established with the D6600, and the receiver's CPU/Network configuration file is sent to the D6200. Once it is done, the window automatically closes and the CPU/Network Configuration window automatically opens.
2. Click the Save as button to open a save dialog box to the C:\Program Files\D6200 folder on the Host PC.
3. Type in a new name for the configuration file ending with a .CPU extension.
4. Click Save to save the file.

Line Configuration

1. Select TeleCom → Line Configuration Management → Read/Manage Line Configuration from Receiver.

   A D6200 Communication Status window appears, a connection is established with the D6600, and the receiver's line configuration file is sent to the D6200. Once it is done, the window automatically closes and the Line Card Configuration window automatically opens.
2. Click the Save as button to open a save dialog box to the C:\Program Files\D6200 folder on the Host PC.
3. Type in a new name for the configuration file ending with a .LNC extension.
4. Click Save to save the file.

Caller ID Database

1. Select TeleCom → Caller ID Database Management → Read/Manage Caller ID Database Configuration from Receiver.

   A D6200 Communication Status window appears, a connection is established with the D6600, and the receiver's Caller ID database is sent to the D6200. Once it is done, the window automatically closes and the Caller ID Database Management window automatically opens.
2. Click the Save as button to open a save dialog box to the C:\Program Files\D6200 folder on the Host PC.
3. Type in a new name for the configuration file beginning with CID and ending with a .DB extension.
4. Click Save to save the file

DNIS Database

1. Select TeleCom → Caller ID/DNIS Database.
2. At the Caller ID/DNIS database selection window, select Enable DNIS and disable Caller ID function and click OK to close.
3. Select TeleCom → DNIS Database Management → Read/Manage DNIS Database Configuration from Receiver.

   A D6200 Communication Status window appears, a connection is established with the D6600, and the receiver's DNIS database is sent to the D6200. Once it is done, the window automatically closes and the DNIS Database Management window automatically opens.
4. Click the Save as button to open a save dialog box to the C:\Program Files\D6200 folder on the Host PC.
5. Type in a new name for the configuration file beginning with DNIS and ending with a .DB extension.
6. Click Save to save the file.

NetCom Account Database

1. Select NetCom → Netcom Account Database Management → Read/Manage Netcom Account Database Configuration from Receiver.

   A D6200 Communication Status window appears, a connection is established with the D6600, and the receiver's NetCom Account database is sent to the D6200. Once it is done, the window automatically closes and the NetCom Account Database Configuration window automatically opens.
2. Click the Save as button to open a save dialog box to the C:\Program Files\D6200 folder on the Host PC.
3. Type in a new name for the configuration file beginning with ACT and ending with a .DB extension.
4. Click Save to save the file

6.2.3 Upgrading the CPU firmware

1. Double-click the Bosch Security Systems icon located in the D6200 Programmer\Firmware CPU-D6610_01.02.00 folder on the D6600 CD-ROM
2. The file will unzip to the necessary location.
3. Open the D6200 Programming Software and select System Management → Firmware Upgrade Wizard to display active and inactive options. Options are displayed depending on which upgrade, (CPU, Line Card, or System Files) was unzipped.
4. Select the CPU option to be loaded to the D6600 and click Next.
5. The D6200 guides you through the rest of the installation process.

6. Once the receiver completely loads the CPU code (approximately four minutes to load the receiver with the new CPU software).
7. It is now necessary to "Remote Execute the Firmware." by selecting System Management → Remote Execute Firmware (which will take approximately three minutes for receiver to re-boot).

> In order for the Remote Execute Firmware command to execute, the Event Buffer in the D6600 Receiver must be cleared (no pending events). Otherwise it will be necessary to press the [ACKNOWLEDGE] button on the front of the receiver to clear the events out of the buffer.

6.2.4 Reloading the configuration file

CPU Configuration File

1. After the CPU firmware upgrade and the remote execute [The receiver should be back to its idle running stage (time and date displayed on the LCD or the pending events in the buffer)], reload the CPU configuration file you saved.
2. Select TeleCom → CPU Configuration Management → Open/Manage CPU Configuration.
3. At the Open Receiver CPU/Network Configuration file dialog box appears pointing to the C:\Program Files\D6200 folder on the Host PC.
4. Select the file name of the recently saved CPU/Network configuration file and click Open.
5. The CPU configuration window opens.
6. Click the Send to Receiver button to send the file to the receiver.
7. A D6200 communication status window appears, connects to the receiver, and the saved CPU/Network configuration file is sent to the receiver.
8. When the transfer is done, click OK to close the window.
9. To verify the CPU firmware upgrade took effect, use the D6200 Programming Software to select System Management Firmware Version.
10. CPU v01.02.01 should be displayed.

Line Configuration File

1. Select TeleCom → Line Configuration Management → Open/Manage Line Configuration.
2. At the Open Receiver Line Configuration file dialog box appears pointing to the C:\Program Files\D6200 folder on the Host PC.
3. Select the file name of the recently saved Line configuration file and click Open.
4. The Line configuration window opens.
5. Click the Send to Receiver button to send the file to the receiver.
6. A D6200 communication status window appears, connects to the receiver, and the save Line configuration file is sent to the receiver.
7. When the transfer is done, click OK to close the window.

Caller ID Database Configuration File

1. Select TeleCom → Caller ID Database Management → Open/Manage Caller ID Database Configuration.
2. At the Open Receiver Caller ID Database Configuration file dialog box appears pointing to the C:\Program Files\D6200 folder on the Host PC.
3. Select the file name of the recently saved Caller ID Database configuration file and click Open.
4. The Caller ID Database configuration window opens.
5. Click the Send to Receiver button to send the file to the receiver.
6. A D6200 communication status window appears, connects to the receiver, and the saved Caller ID Database configuration file is sent to the receiver.
7. When the transfer is done, click OK to close the window.

DNIS Database Configuration File

1. Select TeleCom → DNIS Database Management → Open/Manage DNIS Database Configuration.
2. At the Open Receiver DNIS Database Configuration file dialog box appears pointing to the C:\Program Files\D6200 folder on the Host PC.
3. Select the file name of the recently saved DNIS Database configuration file and click Open.
4. The DNIS Database configuration window opens.
5. Click the Send to Receiver button to send the file to the receiver.
6. A D6200 communication status window appears, connects to the receiver, and the saved DNIS Database configuration file is sent to the receiver.
7. When the transfer is done, click OK to close the window.

Netcom Account Database Configuration File

1. Select NetCom → NetCom Account Database Management → Open/Manage Netcom Account Database Configuration.
2. At the Open Receiver NetCom Account Database Configuration file dialog box appears pointing to the C:\Program Files\D6200 folder on the Host PC.
3. Select the file name of the recently saved NetCom Account Database configuration file and click Open.
4. The NetCom Account Database configuration window opens.
5. Click the Send to Receiver button to send the file to the receiver.
6. A D6200 communication status window appears, connects to the receiver, and the saved NetCom Account Database configuration file is sent to the receiver.
7. When the transfer is done, click OK to close the window.

6.2.5 Upgrading the D6640 Line Card Firmware (v01.02.01)

1. Load the Line Card Firmware once the CPU firmware successfully loads.
2. To upgrade the D6640 Line Card Firmware, double click the Bosch Security Systems icon located in the D6200 Programmer\Firmware\PSTN-D6640_01.02.01 folder on the D6600 CD-ROM.
3. This will unzip the file to the necessary location.
4. Open the D6200 Programming Software, and select System Management → Firmware Upgrade Wizard to display active and inactive options. Options are displayed depending on which e (CPU, Line Card, or System Files) was unzipped.
5. Check the Line Card option to be loaded to the D6600 and click Next.
6. The D6200 guides you through the rest of the installation process (approximately 2 minutes to load the receiver with the new Line Card Firmware).
7. After the Line Card upgrade, verify the Line Car Firmware upgrade took effect.
8. Use the D6200 Programming Software, select System Management Firmware Version.
9. PSTN v01.02.01 should be displayed.

> Line Cards will be reset after the firmware is loaded to update them to the installed release.

6.2.6 Upgrading the D6640 Line Card Firmware (v02.02.01)

1. Load the D6640 PSTN firmware (v02.02.01) into the receiver, if the ITI format must be supported.
2. To upgrade the line card firmware, double click the Bosch Security Systems icon located in the D6200 Programmer\Firmware\PSTN-D6640_02.02.01 folder on the D6600 CD-ROM
3. This unzip the file to the necessary location.
4. Open the D6200 Programming Software, and select System Management → Firmware Upgrade Wizard to display active and inactive options. Options are displayed depending on which upgrade (CPU, Line Card, or System Files) is unzipped.
5. Check the Line Card option to load to the D6600 and click Next.
6. The D6200 guides you through the rest of the installation process (approximately 2 minutes to load the receiver with the new line card firmware).
7. After the line card upgrade, verify the line card firmware upgrade took effect. Use the D6200 Programming Software, to select System Management Firmware Version.
8. PSTN v02.02.01 should be displayed.

> Line Cards will be reset after the firmware is loaded to update them to the installed release.

6.2.7 Upgrading the D6641 Line Card Firmware (v20.00.02)

1. Load the D6641 PSTN firmware (v20.00.02) into the receiver.
2. To upgrade the line card firmware, double click the Bosch Security Systems icon located in the D6200 Programmer\Firmware\PSTN-D6641_20.00.02 folder on the D6600 CD-ROM
3. This unzip the file to the necessary location.
4. Open the D6200 Programming Software, and select System Management → Firmware Upgrade Wizard to display active and inactive options. Options are displayed depending on which upgrade (CPU, Line Card, or System Files) is unzipped.
5. Check the Line Card option to load to the D6600 and click Next.
6. The D6200 guides you through the rest of the installation process (approximately 2 minutes to load the receiver with the new line card firmware).
7. After the line card upgrade, verify the line card firmware upgrade took effect. Use the D6200 Programming Software, to select System Management Firmware Version.

8. PSTN v20.00.02 should be displayed.

> Line Cards will be reset after the firmware is loaded to update them to the installed release.

6.2.8 Upgrading the System Files

1. If the CPU firmware was upgraded from v01.01.01 or earlier, load the System Files on to the D6600.
2. To upgrade the System Files firmware, double click the Bosch Security Systems icon located in the D6200 Programmer\Firmware\System Files folder on the D6600 CD-ROM.
3. This will unzip the file to the necessary location.
4. Open the D6200 Programming Software, and select System Management → Firmware Upgrade Wizard to display active and inactive options. Options are displayed depending on which upgrade (CPU, Line Card, or System Files) was unzipped.
5. Check the System File option to be 1oaded to the D6600 and click Next (approximately 10 seconds to load the receiver with the new System Files firmware.
6. The D6200 guides you through the rest of the installation process.

> It is very important that the receiver is turned OFF and then turned back ON for the system files to take effect! (Approximately 3 minutes for the receiver to be fully operational after it is turned ON.)

6.2.9 Upgrade complete

The firmware upgrade is now complete.

6.3 Telnetting, IP Assigning and Pinging (Manual)

> Remember that the IP and MAC addresses used in this section will not be the same as the numbers you are using. This is for demonstration only

6.3.1 Initial Assignment of the IP Address using ARP

Bosch Security Systems recommends that you read this entire step before beginning. Also, make sure there is power to the network device (C900TTL-E, D9133TTL-E, DX4020 or D6680) and the Ethernet Network RJ45 connection is in place.

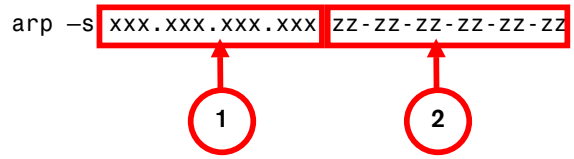
> The network device (C900TTL-E, D9133TTL-E, DX4020 or D6680) being configured and the PC being used to configure it, must both be on the same gateway (the device that connects the LAN to the WAN) in order to telnet (the process of using the TELNET program to communicate with the network device (C900TTL-E, D9133TTL-E, DX4020 or D6680) and establish its communications configuration parameters) into the configuration program. After the network device (C900TTL-E, D9133TTL-E, DX4020 or D6680) has been configured and it has an IP address - you will be able to telnet in to change configuration parameters from anywhere on the network.

Once you have the IP address and the network administrator confirms that it is ready, open up the MS-DOS® prompt on the host computer tied into the network that is to be used. You will now need to use the ARP program to assign the network device (C900TTL-E, D9133TTL-E, DX4020 or D6680) its new IP address.

Address Resolution Protocol (ARP), is a program used to create a temporary association between an IP address and a hardware address, such as a MAC. The ARP program is installed into the C:\WINDOWS directory by default by Microsoft® Windows® 95, Windows 98, Windows 98SE, Windows Me, Windows 2000, Windows NT, and Windows XP, during install.

At the MS-DOS prompt (usually C:\WINDOWS or command prompt for Windows NT and 2000, usually C:\WINNT), the following command syntax is to be used:

Figure 30: ARP Command Usage



1 - xxx.xxx.xxx.xxx - is the IP address assigned to the network device (C900TTL-E, D9133TTL-E, DX4020 or D6680) by the Network Administrator.

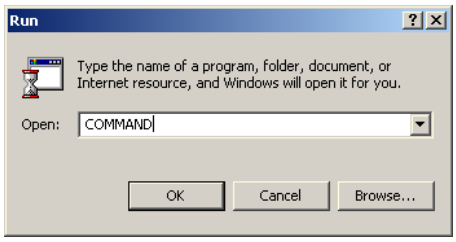
2 - zz-zz-zz-zz-zz-zz - is the MAC hardware address found on the label of the network device (C900TTL-E, D9133TTL-E, DX4020 or D6680).

The following steps detail the assignment of an IP address to a network device (C900TTL-E, D9133TTL-E, DX4020 or D6680), using the ARP command. The following MAC address is used as an example.

ARP Command Usage

1. Open a MS-DOS window by selecting Start → Run.

   At the Run dialog box, type COMMAND and click OK.

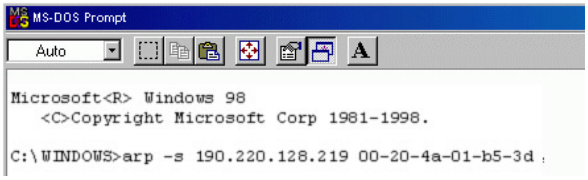


   A DOS window will appear.

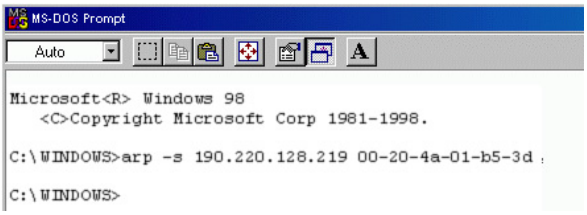
2. Type the ARP –s command with the IP Address and the MAC Hardware address from above.

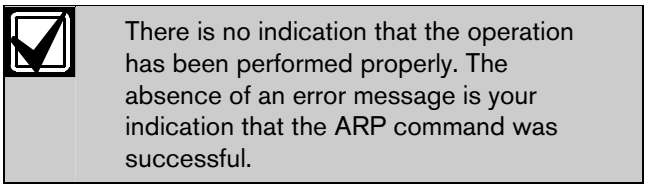
   For this example the IP address to assign is 190.220.128.219 and the MAC hardware address is:

   00-20-4a-01-b5-3d



3. If following your command the computer responds with a prompt of C:\WINDOWS>, then the address was accepted.





There is no indication that the operation has been performed properly. The absence of an error message is your indication that the ARP command was successful.

4. Verify that the IP address was correctly entered into the ARP table by typing:

   arp -g [ENTER]

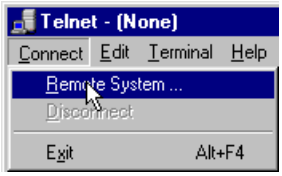
6.3.2 Using Telnet to Finish the Configuration

If you are using Windows 95/98, see *Section 6.3.3 Using Windows 95/98 Telnet.*

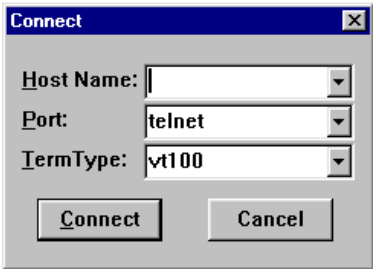
If you are using Windows 2000/XP, see *Section 6.3.4 Using Windows 2000/XP Telnet.*

6.3.3 Using Windows 95/98 Telnet

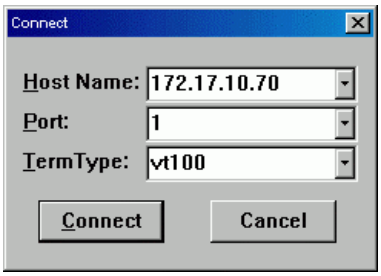
1. Open a DOS window from the Start menu by selecting Start → Run.
2. At the Run dialog box,
   `telnet` [ENTER].
   The Telnet application should now be running.
3. Click on the Connect → Remote System...



   The Connect window displays.



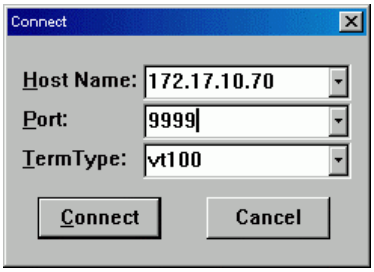
4. Type the IP address of the network device (this is the IP address that was assigned to the network device (C900TTL-E, D9133TTL-E, DX4020 or D6680) in the previous section) in the Host Name field,
   In this example, the IP address is 172.17.10.70.
   Type `1` into the Port field and leave the TermType field at `vt100`.



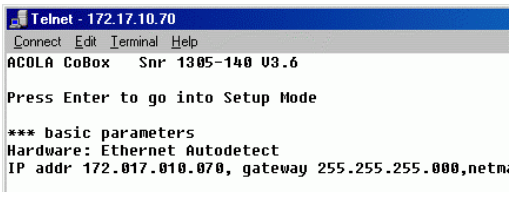
5. Click Connect and wait a few seconds for a connect failed message to display stating: “Could not open a connection to 172.17.10.70.”

Click OK to open the Telnet window again.

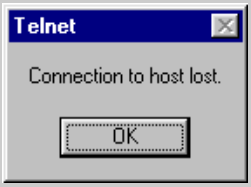
6. Repeat Step 3.
   This time, leave everything as it is except, type `9999` into the Port field. Click Connect.



7. The message "Press Enter to go into setup mode" message appears.
   Press [ENTER].



If you do not press [ENTER] within five seconds of seeing “Press Enter to go into Setup Mode,” you are disconnected. If you are disconnected, the following message displays:



8. If you pressed [ENTER] within 5 seconds of seeing the “Press Enter to go into Setup Mode” message, you should see the following screen:

```
MAC address 00204A801E5C
Software version 01.3 (030612) XPTE

Press Enter to go into Setup Mode


*** basic parameters
Hardware: Ethernet TPI
IP addr 172.30.3.186, no gateway set

*************** Security ***************
SNMP is                 enabled
SNMP Community Name: public
Telnet Setup is         enabled
TFTP Download is        enabled
Port 77FEh is           enabled
Web Server is           enabled
ECHO is                 disabled
Encryption is           disabled
Enhanced Password is disabled

*************** Channel 1 **************
Baudrate 9600, I/F Mode 4C, Flow 00
Port 07700
Datagram Type 00
Pack Cntrl:   00

*************** Expert *****************
TCP Keepalive     : 45s
ARP cache timeout: 600s

*************** E-mail *****************
Mail server: 0.0.0.0
Unit        :
Domain      :
Recipient 1:
Recipient 2:

*** Trigger 1
Serial Sequence: 00,00
CP1: X
CP2: X
CP3: X
Message :
Priority: L
```

9. To complete the telnetting, please reference the appropiate installation guide:

- *C900TTL-E Installation Guide* (P/N: 4998122718)
- *D9133TTL-E Installation Guide* (P/N: 4998122717)
- *DX4020 Installation Guide* (P/N: 49522)
- *D6680 Network Adapter Inguide* (P/N: 4998138732)

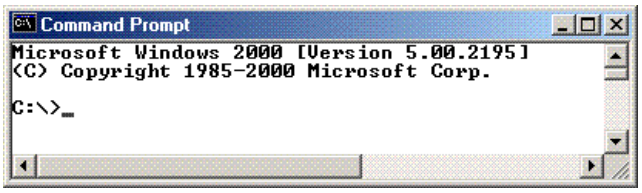
6.3.4 Using Windows 2000/XP Telnet

To finish the IP address configuration of the network device (C900TTL-E, D9133TTL-E, DX4020 or D6680), a Telnet session must be launched.

It is necessary to be logged into Windows 2000 with an Administrator privilege level.

This example uses the IP address of 172.17.10.70 and the MAC Address of 00-20-4a-72-04-0e.

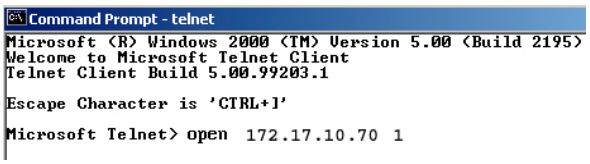
1. Open a DOS window from the Start menu by selecting, Start → Run.
2. At the Run dialog box, type `COMMAND` and click OK.
3. A command prompt window appears:



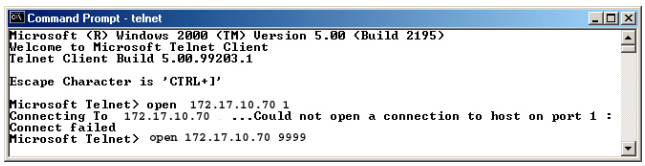
The colors have been inverted here for clarity. The normal prompt window appears with white text on black.

4. At the C:\> prompt, type in telnet and press [ENTER].

5. At the Microsoft Telnet> prompt, type open (space) IP ADRESS (space) PORT NUMBER
   Ex: open 172.17.10.70 1



6. The connection fails the first time. (This is normal). At the prompt enter the same sequence but using port 9999 instead of 1.
   Ex: open 172.17.10.70 9999



Pressing [F3] displays the last line typed, Backspace over the port and change to 9999.

7. Press [ENTER] and you should be in the setup menu of the network device.
10. To complete the telnetting, please reference the appropiate installation guide:

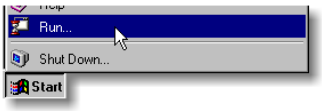
- *C900TTL-E Installation Guide* (P/N: 4998122718)
- *D9133TTL-E Installation Guide* (P/N: 4998122717)
- *DX4020 Installation Guide* (P/N: 49522)
- *D6680 Network Adapter Inguide* (P/N: 4998138732)

6.3.5 Pinging the IP Address

Packet Internet Groper (PING.EXE) is a utility to determine whether a specific IP address is accessible. It works by sending a packet to the specified address and waiting for a reply. PING is used primarily to troubleshoot network connections and can be used to verify if the network device has a network connection.

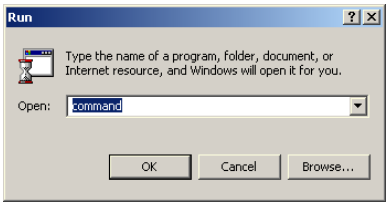
Under Microsoft® Windows® 95, Windows 98, Windows 2000, and Windows NT, PING.EXE is normally installed along with the networking component of Windows, but will not be installed if you have not yet installed any networking components. If it is not present, it can be extracted from the Windows Installation CAB files.

1. You must know the IP address of the device you are attempting to verify. Write down the IP address.
2. Open a MS-DOS window by selecting Start → Run.



or

At the Run dialog box, type COMMAND and click OK



3. A MS-DOS® window will appear.

4. Use the PING command, followed by the IP address of the device you are attempting to verify. The correct syntax is:

   ping xxx.xxx.xxx.xxx [ENTER]

   "xxx.xxx.xxx.xxx" is the IP address assigned to the network device by the network administrator.

5. For example, to verify network communications with a network device that has been assigned an IP address of: 10.0.0.5 the correct syntax would be:

   PING 10.0.0.5 [ENTER].

   Below is an example of the display when a device is installed on the network, is functioning properly and a successful ping has occurred.

```
Pinging 10.0.0.5 with 32 bytes of data:

Reply from 10.0.0.5: bytes=32 time=3ms TTL=32
Reply from 10.0.0.5: bytes=32 time=1ms TTL=32
Reply from 10.0.0.5: bytes=32 time=1ms TTL=32
Reply from 10.0.0.5: bytes=32 time=1ms TTL=32

Ping statistics for 10.0.0.5:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 1ms, Maximum =  3ms, Average =  1ms

C:\WINDOWS>
```

6. See the below figure for an example of an unsuccessful ping display.

```
Pinging 10.0.0.5 with 32 bytes of data:

Request timed out.
Request timed out.
Request timed out.
Request timed out.

Ping statistics for 10.0.0.5:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum =  0ms, Average =  0ms
```

If your machine is not properly configured, it may appear to be doing nothing; this is also an indicator of a failure of the PING command. You can usually terminate the PING command by pressing the Ctrl+C key combination (press and hold the [Ctrl] and press [C] once).

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